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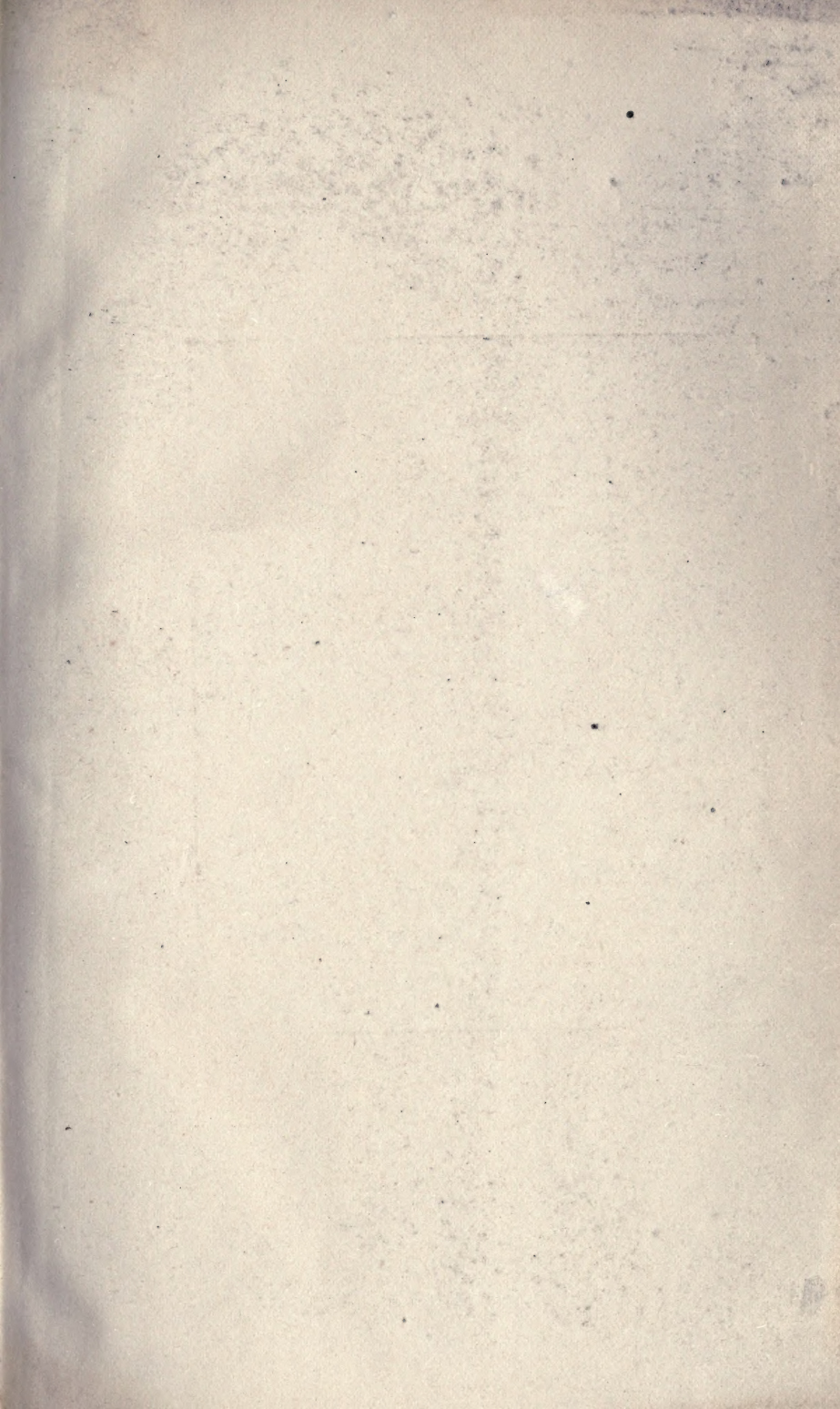


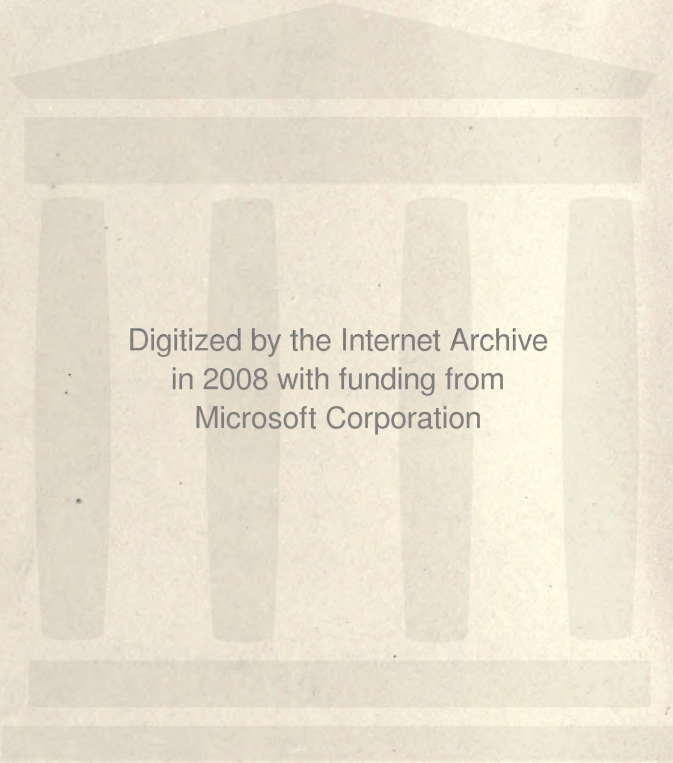
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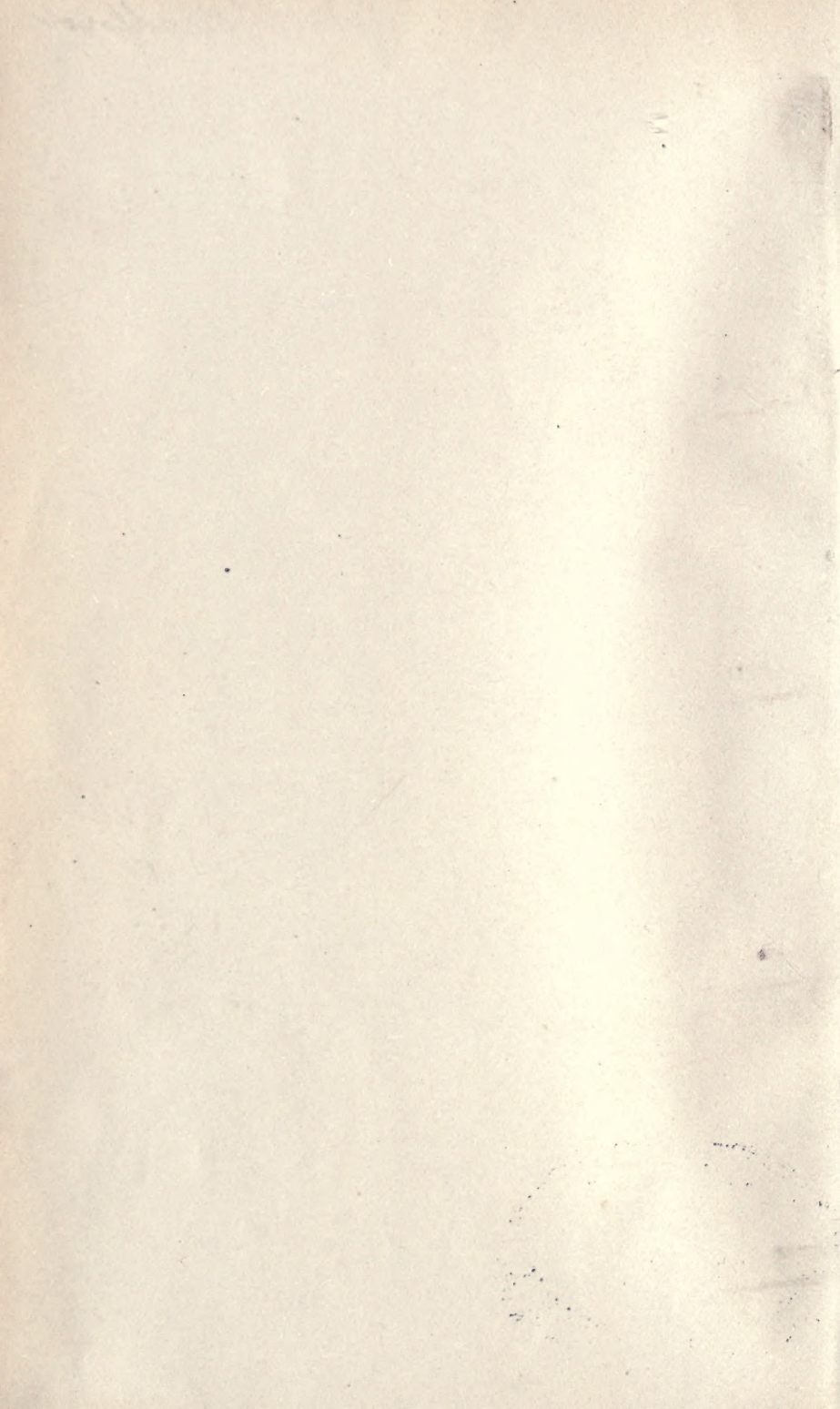
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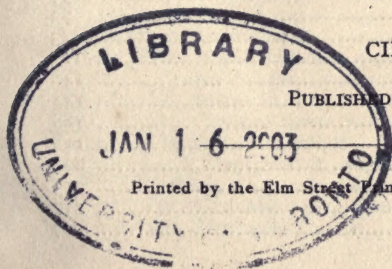
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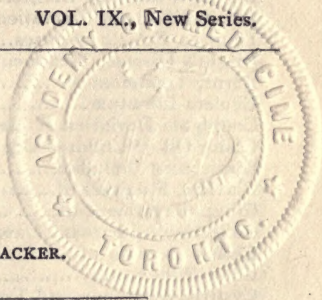
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ORIGINAL CONTRIBUTIONS.

Foreign Bodies in the External Ear.

BY W. R. AMICK, M. D., CINCINNATI, OHIO.

FOREIGN bodies in the external ear are divided into two classes—the external and the internal—or those which are passed into the canal, generally through the external auditory meatus, and those which are generated or formed in it. Any foreign object in the external ear is of more or less surgical consequence, as its presence is liable to produce irritation and pain, which may be followed by inflammation, suppuration and deafness. Moreover, the foreign particle may, from perforation of the drumhead, as a result of inflammation, from the force with which it passed into the ear, or in attempting to remove it, pass into the middle ear, into the eustachian tube, or into the internal ear. Either of the latter places would be an unpleasant complication.

Under the first head may be classed any animate or inanimate object that is small enough to pass through the external auditory canal. They may get into the canal in a number of ways. The most common form of inanimate objects getting into the ear is when children are playing. The child itself, either to amuse the others, or to gratify its own curiosity, will place a bead or a small pebble into the external meatus, and then it will find its way inward. Its playmates may put something in the ear, simply for fun, mischief, experimental or other causes.

Foreign bodies may be forced into the ear accidentally, or with the intention of doing harm: small insects or bugs are liable to fly or crawl into the ear.

Under the head of internal causes may be cerum, epithelial scales, inspissated discharges when there exists suppuration, blood clot in the traumatic cases, collections of hair from the tragus that have fallen into the canal, and the presence of a fungus called aspergillus. Many of the products of suppurative inflammation may properly be classed under this head, including the new formations.

Inanimate objects are often placed into the ear by children who have been deceived. They see a pretended magician, or some other person, pretending to put an object, such as a bead or small pebble, into the ear, and then take it out of the nose. The child then tries to do the same, and succeeds admirably with the first part, but generally requires assistance to have it removed. They do not try the experiment the second time, especially if its removal has given them much pain. Children, in playing, frequently place small beads, pebbles, wads of paper, all kinds of seed, in fact, almost any small object into the ears of their companions. Any kind of a seed in the ear, that is large enough to fill the canal, generally causes considerable pain, as it imbibes the moisture from the canal; then, as it enlarges, it presses upon the lining membrane of the canal, and the membrum tympani, causing pain, which in some cases is very severe.

In a very short time the irritation and pain is followed by inflammation and swelling of the contiguous portions of the canal. This renders the operation of removing the foreign substance more difficult. I remember the case of a little girl in which I was called in consultation. Four days previous, while at school, one of the children had placed a bean in her ear. She tried to remove it, but simply pushed it farther down the canal. When she went home the parents, in trying to get it out, crowded it down upon the drumhead. As it did not give any special pain, it was allowed to remain until it began to enlarge from imbibing moisture from the canal. The pain became so intense that she cried continually, and would not allow an examination to be made, much less any attempt at its removal. Ether was given, and the bean seen in the internal portion of and completely filling the canal. Syringing with warm water did not change its position in the least. On account of the swelling it could not be grasped sufficiently with the forceps to effect its removal. The notches of the forceps broke out small pieces, and into

one of the little openings the point of a tenaculum was inserted, and it was turned forward and finally lifted out. In another case, where there was a pea in the ear of a child, it was removed by splitting off about one-third, then using syringe and forceps. In this case, also, the pea had swollen, and was producing considerable pain, so that ether had to be administered.

It must not be supposed, from the two cases just cited, that swelling either of the seed or of the integumentary lining of the canal ensues. In a number of instances foreign particles of this class have remained in the ear for months, and even years, without giving any trouble, and without complaint on the part of the patient. Bennett reports a case where he removed a honey-locust bean from the ear of a negro boy, thirteen years of age, where, he had every reason to believe, it had been for two years. The bean was in a perfect state of preservation, and had given the boy no trouble, who said he had been induced to put it in his ear because he had seen the big boys do the same thing, pretending to remove it through the nose. He had tried the experiment, but failed; but as the inserted bean never gave him any pain he never told any one of it, for fear of parental punishment. It was discovered by examining the ear for comparison with another.

Small pebbles or stones frequently find their way into the ear. A gentleman was passing by a stoneyard, and, being near where one of the masons was dressing a stone, a small scale that was chipped off went into the ear. As it struck with considerable force, it caused pain, which was followed immediately by hemorrhage. On examination, the canal was found to be filled with clotted blood. This was easily removed with the syringe. The piece of stone was readily removed with the forceps and strong illumination. The hemorrhage was caused by a little wound in the posterior and external portion of the canal, where the stone first struck, the sharp edge making a smooth incised wound. This was the only trouble that it had caused, except temporary deafness, which was removed when the canal was relieved of its contents.

There is generally no trouble connected with removing a small stone or piece of iron from the external auditory canal, provided it has simply been pushed or dropped in, and is not imbedded or impacted. The greatest difficulty

is where the stone is so large that it had to be pushed or crowded through the central or smallest portion of the canal. The trouble is enhanced if it is round, as there is little or no chance to form a reverse current behind it, and is very difficult to grasp with the forceps. If it is irregular in shape, then there is a better opportunity offered for seizing it, even if it is large.

In a great many cases there would be comparatively little trouble in removing foreign particles, provided they could be seen by the aural surgeon before they had been crowded down to the drumhead, or even beyond, in attempts at removal by inexperienced parties. But as soon as a person gets a foreign substance in the ear, their friends, who are anxious about removing it, frequently crowd it down upon the membrane tympani, where it causes pain, tinnitus aurium and deafness. In some cases parties being over zealous about removing the particle, have produced pressure sufficient to rupture the drumhead, and push it into the middle ear or eustachian tube.

A boy was brought into the office by his father, who stated that he had a button in his ear. He could see it at first, and tried for some time to remove it. "But," he said, "it had gone down in his head, and he was afraid of the consequences." Under illumination it was seen in the internal portion of the canal, and easily removed with a small hook.

In machine shops the men are liable to get foreign bodies in their ears, and generally call on some of their comrades to remove them. By doing this a few times some one of them will get a reputation among the employes of being expert at removing such particles. When any of the hands meets with an accident of this kind, they apply to their expert for relief. In many cases he successfully removes the particle without doing any damage to the ear. But occasionally we see a case in which permanent deafness in one ear has occurred from ignorance and injury received by the mechanic removing the ossicles under the impression that they were foreign bodies. In such cases mechanic's tools and drills are brought into requisition. He will pass a small drill down to the drumhead, click it on the handle of the mallens, and then call to his comrades to come and listen to the positive proof (?) that there is a piece of metal in the ear. After this satisfactory diagnosis he proceeds to remove the supposed foreign

body. But more than one man is a living, and, I might also say, deaf witness to the fact that the results thus obtained do not warrant such heroic treatment.

A peculiar case of foreign substance in the external ear, that came under my observation, was the following: A young man had been for a number of months working in a soapstone factory. For the past twelve months he noticed that he was becoming deaf, and was troubled with headache. Of late this had been getting considerably worse, and he applied for treatment. On examination I found that the soapstone dust had collected on the drum-head, forming a complete layer over three membranes. In the right ear it was more than a millimeter in thickness. In both ears the deposit was thickest near the periphery, and had nearly the density of the material in its natural state.

Animate objects frequently fly or crawl into the ear. People who sleep on the floor or lie on the ground are very apt to be awakened by an insect getting into the ear. If the insect is so large that it can not turn around in the canal, they often produce the most excruciating pain by scratching, and even biting, the drumhead. It is almost impossible to imagine the amount of suffering and pain that a small insect in the ear will produce. A few months ago a man came into the office, suffering intense pain in the left ear. The pain was not continuous, but occurred at irregular intervals. An examination revealed an object in the ear, which, when removed, proved to be a bed-bug that had crawled into the canal during the night.

Flies occasionally get into the ear, especially in cases of otorrhœa in children. In one case of a little girl I removed three, and in another, a young lady eighteen years of age, I removed a large one that had been in the canal, causing deafness for nine months. The fly in the latter case was surrounded with cerumen, and, with the exception of a portion of one wing, was in a good state of preservation.

A lifeless insect may remain in the ear for an indefinite time without producing any special trouble, providing it does not press upon the membrana tympani. Insects, in some manner, get into the canal, unknown to the patient, and die without causing sufficient trouble for their pres-

ence to become known. They may then remain for an indefinite period.

It would not be supposed that so large an insect as a roach could get into the ear, yet such occurrences are not uncommon. Bakers, who lie upon the floor in their warm rooms, which are generally well supplied with these pests, as many of their customers can attest, are frequently aroused from their peaceful slumbers with a severe warning and intense pain, caused by a roach getting into the ear and scratching upon the drumhead. A few mornings ago a lady called at the office, holding her head with both hands, while every feature of her countenance signified that she was suffering intensely. The trouble was a live roach, eighteen millimeters in length, in the right ear. A few drops of an aqueous solution of amyle nitrite, and the roach was removed. It had been in her ear for more than an hour. When it first got in she went to her family physician, who informed her that he could not remove it. She stated, after it had been removed, that had it remained in much longer, she certainly would have gone crazy. Its removal was very easy on account of its length, and the fact that the solution dropped into the ear killed it in a very few seconds.

In some instances maggots grow in the ear. This generally occurs in warm weather, and in persons having otorrhœa. Flies are attracted by the odor of the discharge, and deposit the eggs, from which the maggots are developed. Heine and Blake have published accounts of the growth of maggots in the ear, and the latter authority has described minutely the apparatus by which these creatures maintain a hold in, and wound the canal and drumhead. The former writer describes a case of a little girl two years old, subject of a chronic otorrhœa, who had gone to sleep in the hot sunlight with the diseased and offensive ear exposed to the incursion of the flies, and in consequence thereof maggots had sprung up in the ear. In the course of a few days, fat, white maggots, with heads spotted black, were seen in the fundus of the auditory canal. Oil was poured into the ear, and as each maggot came to the surface of the oily bath, it was seized with forceps, and thus all trouble was removed from the ear.

Heine states that he has never failed to remove maggots and all living creatures from the ear, by means of

oil, in a very few minutes. But the majority of surgeons have not been so fortunate.

One of the earliest, if not the first case of transformation of the maggot through the various stages to the fly, after its removal from the ear, is recorded by Dr. Kuntzmann, who said, although he had frequently seen and read of maggots in the ear, he was not aware that any surgeon had brought about the perfect transformation of such creatures when found in the ear. The case he reports is that of a boy six years old, the son of a poor woman, who was brought to him on the 17th of July, 1811, for a severe pain in the ear, which had already lasted fourteen days without cessation. Blood pus was found exuding from the external auditory canal, which was greatly swollen. Otherwise the boy was healthy. Twenty-four hours after the boy was first seen, quantities of living bodies were detected in the ear, and six large, fully developed maggots were extracted with the forceps. The pain then ceased, and all symptoms disappeared in a few days with syringing and the use of mild astringents, and the hearing remained perfectly normal. Each maggot was seven lines long and one line thick. They consisted of several soft rings, which fitted one within the other; on their heads they had two brown, horny hooks, curved downward, between which was the so-called dart, which was not like that of the house fly maggot, but curved, yet not so much as the two hooks. This was the only distinctive feature between the two varieties of larvæ.

Two of these maggots were obtained by the author quoted, and placed in a confectioner's glass jar, in which dry and carefully sieved earth and a piece of meat were placed to furnish food for the worms. They did not attack the food, but instantly buried themselves in the earth, and on the second day were found to have passed into the chrysalis state.

The chrysalides were brown, cylindrical, tapering each way to a blunt end, immovable, and consisted of several rings, like all chrysalides of the fly.

On the fourteenth day after their transformation into the chrysalis, fully developed flies escaped from the shells, which were described as very beautiful gray and black flies, with silver-gray head, and beautiful bright cinnabar-red eyes. The bright redness of the eyes was lost after death, and the color then became brown. These flies

were then presented to Count Von Hofmausegg, who placed them in his cabinet, where they proved to be unique specimens, theretofore undescribed. Prof. Illger pronounced them to be a new species of the class *Tachina*, and named them *Tachina signata*.

It is the opinion of a number of writers on otology, that simply syringing the ear will not remove maggots. By means of their hooks they retain such a firm hold to the membrane tympani or sides of the canal, more force would have to be used in this manner than is justifiable, and it is doubtful whether force enough could be obtained from an aural syringe to dislodge them. It is the opinion of Gruber and others that nothing short of actually seizing them with forceps and pulling them away will satisfactorily remove them.

As they are very hard to kill without using a solution so strong that it would injure the ear, a number of experiments have been tried. As a result of this, it was ascertained that kerosene oil would not kill them. One placed in a solution of salicylic acid died in half an hour. Alcohol destroys them in from six to twelve minutes. Sulphuric ether (Squibb) kills them in from two to three minutes, while chloroform requires but a few seconds. In these experiments, the maggots were placed in the fluids mentioned. A peculiarity with some people is, that ether, placed in the external ear, inflames the throat, and I remember in one case in which but one application was made, in which the inflammation and the pain of the faucets lasted for several days. In another, in which a few drops of chloroform were instilled, there was a severe pain, which continued for at least ten minutes, and then gradually subsided.

The vapor of ether or chloroform will kill them, and Labarraque's solution of chlorinated soda has been used with success. The ordinary solution, astringents, etc., commonly employed in otorrhœa, has no special influence on them. Tannic acid and the mild chloride have been successfully used by sprinkling upon them.

Another class of foreign bodies in the ear are those cases in which an instrument of some kind has been thrust in the ear for the purpose of doing injury. In these cases, the membrana tympani is generally ruptured, and more or less deafness remains, if the instrument is large, on account of the damage done to the tympanum,

and in some cases to the internal ear. In the case of a little girl, I removed a pin that had penetrated the drum-head. She had inserted it into the ear, point first, for some purpose, when another little girl slapped her on the hand. The pin passed through the posterior superior quadrant of the membrane, a distance of four millimeters. It caused considerable pain, but was easily removed with the forceps. In another case, a man had been celebrating his birthday, and in the evening, when completely under the "influence of the celebration," he was sitting on a chair asleep. While thus quietly reposing, some of his comrades were amusing the company by placing what they termed the straddle-jack upon his nose, when one of them put a small cork in his ear. This not only caused deafness and pain, but inflamed the canal. Its removal was attended with considerable pain, but the inflammation readily subsided by using a weak solution of zinc sulphate. In fact, it was not necessary to use anything, as in this case, when the cause was removed, the effect would also pass away.

Of foreign bodies originating in the ear, the most common is cerumen or ear-wax. In the majority of cases it is not very difficult to recognize a plug of cerumen in the ear, as there is not much difference in appearance in different cases. In some cases, where there is a thin layer of cerumen pressed down upon the membrana tympani, it may resemble a dark or discolored and thickened drum-head. A close scrutiny of this would reveal a deficiency in this anatomical structure that exists in the drumhead, and correct any error that might have been made in diagnosis. Mistaking a thin layer of impacted cerumen for a diseased membrana tympani, would lead to an error in treatment.

In one case that came under my observation, the patient had been subjected to a course of treatment with caustics, under the impression, I suppose, that it was a fungus growth.

When a patient seeks relief for deafness or pain in the ear, and the drumhead is hidden from observation, then this obstruction should be considered as the cause, and its removal be the first part of the treatment. Should the effect still remain after this, then the examination should be extended to other portions of the ear. We frequently find mistakes in diagnosis, either through neg-

ligence on the part of the physician in not making a thorough examination, or inability to do so by not being provided with the proper instruments that are required in order to make the requisite inspection.

Cerumen, in some cases, accumulates slowly, and with the finger, towel or ear-pick, is gradually forced down upon toward the membrana tympani. I removed a large plug from the ear of a lady who had been deaf for eleven years, this being the only cause. Immediately after its removal she had normal hearing. In other cases the cerumen is formed rapidly, and will produce trouble in a comparatively short space of time. Deafness from this cause generally takes place suddenly, the immediate cause being a sudden jolt or jerking of the body, or by putting something in the ear for the purpose of cleansing it. The latter frequently takes place following a bath, the water assisting by moistening and enlarging the deposit of wax.

Anything that stimulates the circulation in the external auditory canal has a tendency to produce or be followed by an increased secretion of cerumen. Persons who perspire freely are frequently troubled with a free secretion of wax.

In some exceptional cases the deafness arising from this cause is periodical or intermittent. A young physician from Kentucky called on me last summer for deafness and a peculiar, unpleasant sensation which partook of the nature of headache and vertigo combined. He stated that on arising in the morning he would be deaf for a quarter of an hour, and then there would be a relaxation, or, as he described it, a sensation of falling or dropping away from his ears, and then hearing would be restored to last until after he had again retired. This would be repeated every morning. During the day, and especially toward evening, he suffered with headache, which he attributed to driving all day in the hot sun, as he had a large practice. I remarked that it might be due to cerumen in the ears, but he did not think that possible, as he looked upon a collection of wax in the ear as simply negligence in not keeping the ears clean. An examination revealed a large amount of cerumen in both ears, and, when it was removed, there was so much that he accused me of obtaining it from some other source. With the removal of the wax, the trouble ceased.

In cases of sudden deafness from impacted cerumen, it

has generally been a long time in forming, without the person being cognizant of its presence. A physician from Iowa called to see me in regard to what he supposed was commencing aural catarrh of his left ear. He had paid particular attention to the study of diseases of the eye and ear, and could not believe that the trouble was due to cerumen in the ears until after it was removed, and the symptoms of which he had spoken had disappeared. A peculiarity of this case was, that whenever the instrument used for removing the cerumen (the plug was dry and hard, so that it could not be dislodged with the syringe) came in contact with the integumentary lining of the canal, he would be seized with a fit of sneezing. He stated that his wife had the same peculiarity in this respect as himself.

In some of these cases we find that the patient has been in the habit of using ear swabs and picks. A piece of sponge on the end of a twisted wire, called an aurilave, is about the best instrument for pressing the wax down upon the membrana tympani that we could recommend. The habit of twisting the corner of a handkerchief or towel, and passing it down the canal for the purpose of cleansing it, is not proper. Any cerumen that might be located along the sides of the canal would be pushed down upon the drumhead.

In most cases of impacted cerumen, the chief trouble is the deafness and tinnitus aurium. Occasionally we meet with cases of acute inflammation developed from this cause. George W. called at our office, about three months ago, for pain in his left ear. Said that he had not been able to sleep for a week, on account of the pain being so intense. This was worse at night, so that he had to walk about in the room. Although a man who was not afraid to go forth in battle and face the enemy's guns, yet his distress was so great, caused by impacted cerumen, that he wept like a child. The external portion of the canal was not only inflamed, but swollen and nearly closed, rendering the removal of the plug more difficult. And to add to this, it was one of those dry and hard masses, that we occasionally meet with, which water will not penetrate. After its removal, which required a few days, the chief cause of pain became apparent. The pressure exerted had caused, not only inflammation and rupture of the drumhead, but forced a portion of the

mass into the cavity of the tympanum, producing intense congestion of the middle ear. And still further, the tympanal extremity of the eustachian tube was also occluded with a small plug. Knowing the delicate and sensitive condition of this part, when in a normal state, is it surprising that he should weep, with a hardened plug driven down upon all these structures, when they were highly inflamed? The after treatment consisted in the use of a mild astringent, and he made a speedy and complete recovery. I saw him last evening, and he stated that he could hear as well with that ear now, as he could before he had any trouble with it.

(To be continued.)

Cholera Infantum.

BY ELLWOOD HARVEY, M. D., CHESTER, PENNSYLVANIA.

WHAT I have to offer on Cholera Infantum is deduced from my own observations, and, as I shall not criticise the opinions of others, I hope not to appear dogmatic in expressing my own.

When our county society was young, more than thirty years ago, desiring to offer something from my own experience, a table was made of all the deaths in my practice, including age, sex, cause, etc. It revealed the startling fact that more than one-half of all the cases died of cholera infantum. I hope that none of you ever suffered such an experience; and I also hope that later successes have atoned for my early failures.

The scene of this tragedy was a healthy, hilly, country place. The cause could not be fairly charged to neglect, nor to indifference; for I studied the medical authorities as Jacob wrestled with the angel, determined not to let them go until they had blessed me with the power of healing. The "break of day" seemed long in coming.

The table of mortuary statistics was not presented to the society, but its facts haunted me as Macbeth was haunted by the ghost of murdered Banquo. Riding the daily rounds of practice, a house would be passed in which had been one of the fatal cases; and, oh, the oppression of sadness with which was recalled every part of its history, including the inefficient treatment! Relief could be

obtained only by calling to memory other cases that had terminated more happily.

Comparisons arranged the cases into classes, and the fact dawned upon me that the recoveries were in the homes of the better class of people, where good nursing had saved the children's lives. Homes where the patients had been kept in cool, quiet, darkened rooms while sleeping, and where they had been fed with judicious care. The fatal terminations were in the homes of those who lived in one room from morning till night; where the heat and odor of a cooking-stove added to the oppressiveness of the hot summer weather; where the floor was not carpeted, nor the windows curtained.

It was sufficiently evident that the difference in results was not due to medicine, but to other conditions which I had not thought of trying to control. It would be tiresome and useless to narrate the progressive steps toward a more successful practice, but I beg leave to offer some thoughts upon the subject which may elicit profitable discussion, if nothing more.

I shall not attempt to describe a disease so well known to you all, but wish to call attention to some of the symptoms, for reasons which you may presently see.

The first are those that point to some disturbance in the brain, such as pulling the ears, clutching with the hands at the sides of the head, throwing the head backward in sleep, sleeping with the eyelids partly open, and with the eyes turned upward. These indicate the beginning of cholera infantum, though there may be no disturbance of the stomach or bowels. The last-named symptoms are but other evidences of brain trouble, and always attend when the case becomes bad enough to develop them. What the pathological condition of the brain may be, is not within the compass of my present purpose; nor is it necessary to discuss the reason why this peculiar cerebral condition is attended by green alvine discharges.

The one essential cause of this disease seems to be excessive heat, either of the weather or of a heated room, which may be aided in either case by too much clothing, and by too much covering over the child when in bed. Other influences may aid the undue heat in developing and continuing the disease; and these are mainly over-feeding and dentition. But there seems to be sufficient

reason for believing that all of the "other influences" together will not cause cholera infantum; and that excess of heat alone may induce it.

I shall not recite special cases to illustrate the treatment to be described, but respectfully beg leave to state that it has been attended by very gratifying results for nearly thirty years.

In the earlier stage of the disease it can be very easily cured, in most cases, by keeping the patient cool, diminishing the supply of food to an amount that can be digested, cutting the gums if they need it, and allowing the patient to drink freely of cool water if it will.

In all cases, whether mild or severe, the child should sleep in a cool, quiet, darkened room in the daytime, and in a well ventilated room at night. Not in a room that had been ventilated some time during the preceding day, but in a room that is ventilated all the night long with air from the outside of the house. No artificial light should be allowed in the room in night-time. The more sleep it has in the daytime the better it will be. Its head should not sink into the pillow, but should be kept cool. There should be no talking in its presence when sleeping, not even in whispers. If this injunction is disregarded the child's brain will not have the needed rest. When awake in the daytime, have it carried out in cool, quiet, shady places. If not too sick to endure the fatigue, carriage riding is also good for these cases. If it is awake and fretful in the night-time, carry it about the yard and garden, talking soothingly to it. The stillness and darkness of the night have a wonderfully calming influence.

It is generally necessary that the physician should, himself, take off the superabundant clothing, and not trust any one to do it in his absence. Take off the petticoat and the flannel bandage, and see that the bandage is kept off. It is always a nuisance after it ceases to be needed as a part of the dressing of the umbilicus. Allow the bowels to have the churning that naturally accompanies every movement of the body, and without which they can not perform their functions well. Of course, cases may occur in which the patient is so much debilitated as to require the application of warmth to the extremities, and in which the clothing can not be safely removed. It is not intended to discuss, now, the subject of cholera infantum exhaustively, but chiefly to call at-

tention to such points as indicate the brain as the prime seat of the disease. There is one point, however, in relation to alimentation, that I would invite attention to. The sick child takes liquid food eagerly, not because it is hungry but because it is thirsty. The digestion is always impaired, and only a small amount of food can be digested. Whether it receives milk from the natural source or from a bottle, the first step in the process of digestion is coagulation, and there the function ceases. The liquid whey being demanded by the system is absorbed, and the curd, not being needed, is ejected by stomach or bowels, causing constant disturbance in the alimentary canal, with which the affected brain sympathizes. The supply of food must be no more than can be digested, for if more than that is taken, all is purged away and none is digested. It may be necessary to reduce the supply down to a tablespoonful, or even a teaspoonful, at a time. To meet the demand of the child's thirst, which is an expression of the want of its system, give it frequently all the cool water it will drink.

The treatment thus far suggested is more hygienic than therapeutic, and is often sufficient to effect a cure, but not always. It is, however, always an important and generally a necessary part of the treatment.

The one thing to which I wish especially to invite your attention, as the most useful and reliable means for controlling cholera infantum, is the use of blisters upon the head.

In mild cases they may not be needed, but in every case the patient is sooner well when they are used. In severe attacks they seem to be indispensable. They should be put upon the denuded scalp, not upon the bare skin, and should be left on until they have done all they can do. If taken off too soon they do very little good, though the cuticle may be raised. The hair must be cut off close to the scalp, and suitable places are the sides of the head above the ears. The physician should, himself, cut the hair off, or it may not be thoroughly done, and then there will be a failure. If the cerate of cantharides is spread thick about as large as a silver dollar, or larger, on surgeons' adhesive plaster, with a margin of plaster to secure adhesion to the scalp, and the adhesive border clipped with scissors toward the center so as to secure a smooth application; and if the plasters are then kept on for eight

or ten hours, there will not be a failure. The serum that discharges upon the neck and ears should be carefully washed off, or it will cause blisters on the bare skin, where they are annoying.

Blisters are slower on the scalp, are less painful, and heal quickly without any dressing, but they are sufficiently efficient. I have never known them to cause strangury. If a crop of boils on the scalp should follow their use, there will be no more cholera infantum while they continue, unless the attending hygienic conditions are very unfavorable. The blistering may be repeated as often as the necessities of the case may demand; and after the first pair it may be sufficient to apply one at a time on the two sides of the head alternately.

In recent attacks, medicines addressed directly to the stomach and bowels never did any good for me. Perhaps because I never found the right thing. If a case has been protracted until there is organic lesion of the mucous membrane, that is a condition which may demand special attention. I have always seen injury done by opiates while the cerebral irritation exists. The comfortable night obtained by their use is dearly paid for afterward.

In conclusion, allow me to say that my practice is based upon experience, and not upon speculative pathology.

ORIGINAL LECTURES.

Echinococci of the Liver and Spleen.

Good Samaritan Hospital.

CLINIC OF PROF. JAS. T. WHITTAKER, M. D.

Reported by A. H. Kelch.

WE have to-day a very interesting case to present to you, gentlemen, in which the disease is situated sub-diaphragmatic:

Diseases that are situated below the diaphragm are not so easily recognized as those that are situated above it. Thanks to the genius of Laennec, we have the means of discovering the exact character of any lesions of the

lungs or heart, and not only to determine their seat and character, but to mark out, to almost an absolute certainty, their extent, describe their complications, and foretell their terminations. As I propose to show you presently, in an extremely interesting case of heart-disease, the slightest lesion above the diaphragm we can recognize at once, but below it all diseases are still involved in obscurity. Such a difference in diagnosis would hardly seem justifiable, for above the diaphragm we have all the organs enclosed in bony walls, while below it, the whole anterior portion is covered only by skin, muscles and peritoneum, all soft structures, easily palpated, and it would seem at a glance that these diseases should therefore be more easily distinguished. Nevertheless, sub-diaphragmatic affections are hard to detect, and chiefly because our main reliance is upon the sense of touch alone. The ear and the eye help us but little.

Let us take this case, now, as it presents itself to-day. Dr. Tackenberg, the house physician, will please read us the history :

HISTORY.

"John M——, aged 26, nativity Ohio, admitted January 6, 1880. At the age of fourteen he had typhoid fever, and, a year later, diphtheria. No family taint or venereal disease.

In 1869, he was struck in the stomach with an iron ladder, a blow which confined him to the house for three months, and for two years after this he was subject to occasional violent cramps.

The tumor in the right side he first noticed in April, 1874. This tumor continued to gradually grow for two years, when, on account of a sudden additional distension over the whole abdomen, he consulted a number of physicians in St. Louis and in this city. The distension was then so much reduced by treatment as to enable him to resume his work. The enlargement then began to grow again, and two years ago he was tapped by Dr. Longworth in this hospital. Subsequently he was tapped again, each time in the liver, with an aspirator, and on each occasion bloody serum was withdrawn. The results of the microscopic examination of this fluid were negative."

Here we have a young man aged, as we hear, about twenty-six. He has undergone, as you see, extreme emaciation, which is especially marked about the face.

You notice, too, at a glance, that he shows an unnatural color. He is decidedly jaundiced. You would see it better in the light of day. For I have frequently taken occasion to tell you that you can not observe jaundice so well by gaslight as by daylight. We must not always look to the liver as the seat of its cause. Many cases are due simply to changes that occur in the blood, especially in the course of infectious diseases. The intense jaundice of yellow fever, for instance, has nothing to do with the liver. It is hematogenic, and is due to disorganization of blood, to partial dissolution of the corpuscles and liberation of the coloring matter. But we would not suspect in this case any changes of the blood, for the reason that the individual before us has not suffered from any infectious disease. We say, then, that the jaundice in this case leads us directly to the liver. The emaciation shows a chronic disease, and the jaundice points to the liver.

The next point that attracts our attention after the emaciation and jaundice, is this great distention of the abdomen. What can be the cause of this great enlargement? You notice it is very uneven. It is not the uniform enlargement of ascites. In fact, the enlargement here is most marked in, we might almost say is confined to, the upper region of the abdomen. Here is also a preternatural dilatation of the veins. You observe they run large and tortuous over the surface of the abdomen, four or five times their natural size. When I put my fingers upon them, I may feel that I displace blood from their lumina, and the very fact that this condition exists would lead us again to some obstruction in the course of the portal vein—would lead us again to the liver.

Let us first decide whether we have, in this enlargement, to deal with solid fluid or gas; and first by palpation. When I place one hand here, low down upon the abdominal wall, and tap with my finger upon the opposite side, I get a distinct sense of fluctuation; then, as I rise to a level of the fluid, I feel it even more distinctly, until finally, when I have risen above its level, I no longer feel it, and now, if I percuss at this point, you have the tympanitic sound of gas. Here is a distension in the region of the loins, and even bulging out on both sides. This proves that there is some free fluid present in the abdominal cavity. Thus we have fluid following the line of

gravity and gas floating above it. If I should stop right here in my examination, I should have to entertain strong suspicions of cirrhosis of the liver in the first stage—a stage which is marked by enlargement of the liver; by dilatation of the superficial veins; by compression of the portal capillaries in the liver, and by the consequent expression of fluid into the abdominal cavity. If I then put my hand over the surface of this tumor, I find it hard and unyielding, additional evidence for cirrhosis, but lobular, uneven, and too immense in size for any degree of this disease. For I observe here the surface of hepatic dullness, to a distance of six inches below the ribs. I sink my fingers into the wall of the abdomen, and come upon another tumor, filling up entirely the left hypochondrium, and a large portion of the epigastrium, extending down to the iliac region, into the pelvis. That tumor is of course, the spleen. We have here, then, a very remarkable enlargement of both the liver and spleen.

It becomes, then, clear, from inspection, palpation and percussion, that we have two large tumors to deal with, which extend over, and fill up, the whole abdominal cavity superiorly, and, so far as our superficial examination goes, we have to deal with enlargement of the liver and spleen.

Now, the question is, What is the cause and kind of this enlargement? It was first noticed, we hear in its history, six years ago. That enables us to exclude cirrhosis at once. Cirrhosis might give us an increase in all diameters of the liver of two or two and one-half inches. In far less time than five or six years contraction would set in, and, instead of a preternatural enlargement, we should find a preternatural diminution in size. Cirrhosis may cause an enlargement of the liver of three inches in the first stages, but never six.

The spleen here is even larger than the liver; it fills up the whole lateral and lower portion of the abdomen. It is as big as the biggest ague cake, but instead of preserving its natural outlines, it is grossly lobulated like the liver. Clearly, then, this splenic enlargement is not malarial in its origin.

What, then, is still left? The next diseases that we would naturally come to consider, are syphilis and cancer. Could syphilis give us such an enlargement as this of internal organs? You have already heard it stated that in

his past history there has been no manifestations of specific disease. But upon the history of the patient in this regard, we place little or no reliance. The liver was the first internal organ in which syphilis was noticed, and it is to this discovery that we owe our knowledge of visceral syphilis. For the sake of making our clinic clear, let us suppose that syphilis might be the cause of this disease. Syphilis does enlarge the liver and spleen by the deposit in their interior of gummatous masses. But visceral syphilis, in gummatous masses, could not enlarge the liver to this extent. It certainly could not enlarge the spleen to such an enormous size as here. Syphilis does not always enlarge these organs. Sometimes, by causing diffuse hyperplasia of the connective tissue, it leads to their contraction. Or, it may enlarge internal organs, and still preserve their general outlines. This it occasions by amyloid degeneration. Here the small arteries are first attacked. Amyloid matter, which is dealkinized fibrin, is deposited in the walls, and is substituted for their natural protoplasm. But to dealkinize the fibrin there must be a drain of the alkaline matter. This is effected by the prolonged discharge of pus, a highly alkaline fluid. If we could find any suppuration here, present or past, we might entertain the idea that the disease is amyloid degeneration. But we discover neither pus nor evidences of syphilis anywhere else in the body, so we shall have to exclude syphilis, I think, from the etiology of this disease. I have dwelt upon it, because the greatest triumphs you will have in the treatment of enlarged livers will come to you through the recognition of a syphilitic genesis of the disease.

You remember the last case I showed you here of enlargement of the spleen. In that individual there seemed to be a clear history of malarial cause, and we put him at once upon the use of antiperiodic remedies. As the case, however, did not improve, we had to abandon this idea, and we found afterward that the cause of the enlargement was a carcinoma of the spleen. Well, primary carcinoma of the spleen is a very rare disease. It is not, however, rare as a secondary affection to stomach carcinoma. And carcinoma would give us a spleen of very great size. There is scarcely any limit to its growth so long as the individual lives, nor is there any limit to the irregularity of outline it may occasion. But there is a

factor here that almost at once enables us to say that this is not carcinoma of the liver or spleen. Our patient is only twenty-six years of age. The age of the individual and the duration of the disease would exclude carcinoma. We could scarcely conceive of carcinoma of the liver or spleen extending over a period of six years. Now, what possible disease can we have here in this individual besides those described? Will some gentleman in the class name this disease? *Ans.*—Echinococcus.

Very good. There is no limit to the time an echinococcus of the liver may exist. It enlarges the liver in all directions, to any possible dimensions, provided the individual is not killed by mechanical effects. It affects the liver notably; while it may be present in any other organ, as the brain, and even the eye, it prefers the liver to all organs of the body, and, next to the liver, the spleen. The source of echinococcus is found in the dog. If we take the 70,000 individuals that compose the population of Iceland, we will find, we are told, 1,500 of them carrying around an echinococcus tumor. There the people and the dogs live in the same house. As the pig is the host of trichina, the dog is the host of echinococcus. But we do not eat the flesh of dogs as of pigs. The eggs of the echinococcus is transferred to man in fondling the dog. They are, indeed, transferred from mouth to mouth, for the most part. Dogs have a frequent habit of approximating the two ends of the alimentary canal, and thus receiving upon the nose and mouth the eggs of this parasite.

What is, then, the proof of echinococcus here? We reach the surest diagnosis, generally, directly. And what are the direct factors indicative of echinococcus? The indirect factors are the organs affected, the character of the enlargement, the age of the affection, and the condition of the patient. While we may reach, by exclusion, a diagnosis in this way, it is not a perfectly safe way. As Oppolzer used to say, because a fruit is not an apple or a pear, it must not necessarily be a peach. The direct factors for a diagnosis we lack. In the first place, there is no hydatid thrill over either the liver or the spleen. Some indistinct fluctuation we do get, but not that feline purring, the *fremissement cataire*, so often described. But, in truth, the thrill is absent in the great majority of cases of hydatid tumor. Finsen never found it once in 255 cases, nor did Wolff in seven cases, and Frerichs says that

it is only present in about half the cases. The vesicles must be numerous and lax to show a hydatid thrill. A unilocular cyst never shows it at all.

The most valuable direct evidence is the detection in the fluid of fragments of the echinococcus itself. Hooklets, scolices, fragments of membrane, any or all, will prove the presence of echinococcus beyond a doubt. Still, in many of these cases, none of these parts may be found, for they become completely destroyed in cysts, whose contents have undergone degeneration. Mosler found fragments only twice in twelve cases. A last point, in direct evidence, is the chemical nature of the fluid withdrawn. Tested by heat and nitric acid, it should not show the presence of albumen. A common cyst, for example an ovarian cyst, will be largely albuminous, because it consists mainly of serum. An echinococcus cyst is watery; it contains organic acids and salts, but is free from albumen, unless, indeed, it be inflamed, as after repeated tapping, when albumen may transude into it from the blood vessels.

We are unable to examine the fluid, which is, undoubtedly, present in this case, because the patient will not suffer the simple operation of puncture even with the hypodermic syringe. He says he has been tapped enough. We will, on another occasion, perhaps, have the opportunity of verifying our diagnosis in this way; at any rate, the case is of great interest, if only from the point of view of differential diagnosis.

SELECTIONS.

Is Phthisis Self-Limiting?

BY WM. PORTER, A. M., M. D.

Read before the St. Louis Medical Society.

It is well known that at a recent meeting of the New York Academy of Medicine (May, 1879), Prof. Flint asserted his belief in the self-limitation of phthisis (*Arch. of Med.*) This assertion was made so forcibly and sustained by such seemingly positive proof, that it has thus far been received without recorded dissent. It being a

subject of vital importance, with all respect for the learned author, we will examine his position from his own standpoint, and cite the cases which he has noted. The deductions that follow will thus be made upon ground already chosen.

Let us, then, gentlemen, receive the evidence purely upon its merits, forgetting, if possible, the high authority which we call in question. It is, moreover, right that a decision be reached in this matter, for if phthisis be self-limiting, this element must necessarily affect the result in no small degree; but if it is not, then must we look to therapeutic force and hygienic conditions for success.

At the outset, however, I can not but echo Andrew Clarke's just tribute to our author, for he is "one from whom I have learned much; one whose acute powers of observation, whose largeness of experience, deserve the warmest gratitude of every student of pulmonary pathology." We revere and honor Flint; therefore, we shall deal freely and directly with his conclusions.

What is meant by self-limitation? So far as our argument is concerned, the definition given by Prof. Flint is well adapted. "A disease is self-limited when it ends in recovery, irrespective of extrinsic influence derived from either hygiene or therapeutics."

We might also rest our case here, for it will be at once conceded that the rule is, that phthisis does not end in recovery, irrespective of extrinsic influence. To this rule there are few, if any, exceptions—certainly too few to affect the question. To these exceptions, however, our author points, and says they "are amply sufficient to substantiate the statement that in certain cases pneumonic phthisis ceases to be progressive, and may end in recovery from self-limitation." I will endeavor to prove to you, gentlemen, that phthisis is not, and can not be, from its very nature, a self-limiting disease; and will ask you to examine with me briefly, first, whatever in the causation and pathology of phthisis relates to the subject; and, second, the clinical evidence adduced by Prof. Flint to substantiate his position.

Let us at the outset look for a working definition of phthisis. Flint, in the discourse mentioned, considers the "term pneumonic phthisis or pulmonary consumption as applicable to all cases of phthisical disease, exclusive of acute tuberculosis or interstitial pneumonia." Very true.

What, then, is phthisical disease? A wasting, a constitutional disease, "a progression of symptoms, characterized," as Andrew Clarke has it (*New York Medical Record*, Dec. 14, 1878), "by an ulcerative or suppurative destruction of a more or less circumscribed non-malignant deposit in the lung." The great factor back of all local manifestation is, then, the phthisical cachexia. Flint himself (*Prac. Med.* p. 289) admits the pathological fact that the pulmonary invasion is "the local expression of a general or constitutional morbid condition, the latter being the essential disease." He further says, "the great object of treatment, therefore, is the removal of this constitutional morbid condition or the tubercular cachexia. Measures addressed to the pulmonary affection are of secondary importance." How, gentlemen, can we believe that pulmonary phthisis, the local manifestation, is self-limiting, when back of it we have the tubercular cachexia? The author, having taught that phthisis is the local expression of cachexia, yet self-limiting, the deduction must be that the cachexia—this tubercular cachexia—is self-limiting also; in other words, that this condition, with its sequences, has an "intrinsic tendency to recovery irrespective of extrinsic influences derived from either hygiene or therapeutics." Is it any wonder that we turn from the *ipse dixit*, and call for proof ere we subscribe to this doctrine?

Let us glance at some of the causes of phthisis, and see if we can relegate to them a self-limiting tendency. Among these we have inheritability, age, climate, habits of life, poor food and exposure. Now, if from any of these causes—and these are the principal ones—a man has phthisis, is it reasonable to expect a limit from intrinsic influence? And if the man recovers, the cause being removed, is it not to this rather than to self-limitation that the result is due? When a patient with an inherited tendency to phthisis is so strengthened as to resist the advance of the disease, or by care and prudence lives beyond the dangerous decade; or, weakened by an effeminating, changeable climate, seeks a better one, or exchanges a hurtful occupation for one more favorable—there is a cause for the stay of the disease more tangible than "self-limitation." To such a cause will we find most, if not all, recoveries from phthisis are due.

A few words regarding the pathological characteristics

of phthisis. Here I can not serve my purpose better than to again quote from Prof. Flint (*Prac. Med.*, p. 280): "The fact to be especially borne in mind is, that pulmonary tuberculosis is not primarily and essentially an affection of the lungs. The tuberculous products proceed from a prior morbid condition of the system. It is a rational inference that a vice of assimilation is involved in the existing cachexia." Putting aside all disputed points as to the relation of true tubercle to phthisis (Prof. Flint using the terms phthisis and pulmonary tuberculosis in the same sense)—(*Prac. Med.*, p. 271), we have this succession which all admit—cachexia, mal-assimilation, pulmonary invasion. The latter impairs the respiratory function, and thus reacting upon the assimilative, the cachexia is further determined. The patient is thus inclosed in a morbid circle which can only be broken from without. Limitation must result from either repressing the cachexia, restoring assimilation, effecting retrogression of the pulmonary invasion, or all of these together. Tell me, what is there intrinsic in this vicious circle which will cause it to break itself? The rather, each link becoming its own cause, grows stronger through the others, and without intrinsic influence the disease progresses. In the very nature of cause and effect it can not limit itself.

If, then, what we know of the causation and character of phthisis is opposed to the idea of self-limitation, let us examine the clinical evidence adduced in support of this theory.

Prof. Flint, in his well-known work on Phthisis (1875), records six hundred and seventy cases of this disease, among which were seventy-five in which either recovery took place or the disease became latent; and his recent paper is founded upon their histories. Now, gentlemen, it is to those seventy-five cases that we must look for all the proof that has been given of the self-limitation of phthisis. By these, thus far, must the proposition stand or fall. We find that in thirty-one of these cases the statement is merely that "the disease ceased to progress for at least several months, and in the majority of cases for several years." By reference to the record we find that the last examination of each gave evidence that the disease was still present—latent in some, as may occur in phthisis, but not self-limited; for "a disease is self-limited when it ends in recovery," etc., and these had not

recovered. As, according to our author's own definition, thirty-one of these cases have no definite bearing upon the point in question, we are restricted to the study of the remaining forty-four.

As self-limitation is independent "of extrinsic influence, derived from either hygiene or therapeutics," we at once decline the evidence of twenty-one of the forty-four cases, for in all of these pertinent and generally persistent treatment was pursued. Moreover, *three* of these cases subsequently proved fatal, and the last examination showed that at least a third of them had still physical signs of phthisis. We must object to these twenty-one histories as pertinent. The interest now centers in but twenty-three. "In fifteen of these cases hygienic measures constituted the treatment;" but these measures were of such a character as would lead us to hope for favorable results, viz., changes of business, outdoor life, rest, sea voyages, change of climate, etc. These are potent aids, for as Flint says (*Prac. Med.*, p. 290), "out-of-door life is of all measures most important." Now, to prove a disease self-limiting, we must eliminate whatever can be reasonably traced to "either hygiene or therapeutics." These fifteen cases were given the advantage of favorable hygienic conditions, and who shall say they would have recovered without these conditions? Having made use of that remedy which of all others has been found efficacious in phthisis, these fifteen cases are certainly not examples of self-limitation.

CASE I is that of a farmer, who, having in the winter of 1842-'43, expectorated what were thought to be pulmonary calculi, was examined in June, 1843; "the only physical sign noted was feebleness of the respiratory murmur." He was in excellent health thirteen years after. "Prior to the development of the disease the patient had worked very hard on a farm. He left home for several weeks, and, after relinquishing severe labor, engaged in buying and selling new lands in Illinois, a business which required much out-of-door life."

CASE IV.—A physician, aged twenty-eight, had hæmoptysis in October, 1852, and again in January and May, 1853. In May, 1853, he had slight dullness at the right summit, with weakened respiratory murmur and crackling, which accompanied inspiration and expiration. In September, 1854, he reported himself well, "a year after

recovery:" i. e., his recovery must have dated from September, 1853, five months only after the above symptoms were noted. However, we find that in September, 1854, there was still "dullness at the right summit, and the respiratory murmur was feeble."

CASE XIV.—A physician, who had cough, hæmoptysis and slight loss of flesh, was examined October, 1857, and found to have evidences of phthisis at the left apex. Five years later Dr. Flint saw him in apparently good health. He had been drinking beer, living generously, with an abundance of exercise out of doors. It seems that in this case and in number IV, no medicinal agent was used, though the patients were physicians. They both had the influence of riding and driving in the open air while engaged in country practice.

The three remaining cases do, so far as recorded, seem to be instances of recovery from phthisis without medical or hygienic agency.

The other two cases, XX and XXIII, furnish the best evidence in favor of self-limitation, though the record is very short. Two sisters, whose parents, three sisters and two brothers had died of phthisis, were found, one with disease of the left apex, the other of the right. No remedy of importance was given, or change made in the habits of life. Both were well fifteen years after. Again the question may be asked, why was not some form of treatment or change of condition ordered in these cases, as "no effort had been spared to save the lives of their sister and brothers; traveling, changes of climate, together with remedies having been resorted to in vain, although, perhaps, with the effect of retarding the progress of the disease?" With this, however, we have nothing to do. The record is, that these two sisters, for whom nothing was done, alone recovered. Granting that these two cases, and the one and possibly the three preceding ones, show evidences of self-limitation, yet, we again quote from Prof. Flint's paper: "Self-limitation can not be inferred from a single case or a very few cases."

Twenty years ago Prof. Flint advanced the idea of the self-limitation of phthisis (*Am. Jour. Med. Sci.*, 1858). A year ago the question was ably reopened by the same author. The conclusions made, though much quoted, have not as yet, as far as we know, been indorsed by any of the many observers and investigators of pulmonary

disease. Is it possible that in all this time all others have overlooked this most important element in the progress of phthisis, to which attention has so long ago been called? Does not the etiology, pathology and termination of phthisis plainly teach that, without extraneous influence, phthisis is progressive, limited only by death? Clinical evidence is certainly opposed to the doctrine of self-limitation, for we find that even in the large experience of its only advocate, among hundreds of recorded cases, that this doctrine is sustained by but few, and in all fairness we confess a doubt as to the pertinence and value of most of these.

As Prof. Flint has placed the evidence before us, it is the right and duty of every physician to examine it, and to judge for himself. If phthisis is self-limiting, let it be proven so, for with the assertion comes the *onus probandi*. As yet, we must believe that self-limitation is not an element in the character of the disease.

Though unwilling to admit that there is an intrinsic tendency in phthisis to recovery, yet we should not lose sight of the fact that many cases of phthisis respond to judicious treatment and hygienic conditions. In truth, in no other disease is careful scrutiny and constant care more necessary or better rewarded. Even were self-limitation ten times proven, it should not lessen, the vigilance and attention which such cases demand. In all cases of phthisis two forces are at work—one aggressive and morbid, with (as we believe) a direct tendency to death; the other defensive and systemic, opposed to and retarding the progress of disease. Whatever method of treatment is pursued, it, and everything connected with it, should tend to the building up of the system, and the increase of the powers of resistance to disease. In this, we believe, is the true limitation of phthisis.

Conjugate Deviation of the Head and Eyes, as a Symptom in Cerebral Hemorrhage and Other Affections.

BY W. H. BROADBENT, M. D., F. R. C. P.

It is very rarely that one makes a single symptom the subject of a clinical lecture; but although, in my systematic lectures, I always describe and explain the deviation of the head and eyes that we see in many cases of

hemiplegia, and occasionally in other affections, there is not sufficient time for its thorough elucidation. I have, therefore, taken the opportunity afforded by two cases, in which this deviation has been observed, to bring the subject before you. It is a symptom which has occupied very little attention in England, but which has been the subject of frequent discussion in France, and, to some extent, in Germany. Vulpian, Lepine, Prevost, and, more recently, Landouzy and Grasset, have written about it, and one of the most interesting monographs I have ever met with on any subject is that by Dr. Prevost, of Geneva, which I hold in my hand. The two cases under observation, by which this lecture was suggested, are as follows: In one of them the symptom was an effect of paralysis, in the other, a phenomenon of spasm. The first is that of a man aged fifty-one, who was admitted on September 16, suffering from choleraic diarrhea of unusual severity. He was recovering from this when, on the 20th, he fell from his chair in a semi-conscious condition with absolute paralysis of the right limbs, while the face was turned over the left shoulder, and the eyes looked as far as possible to the left. On recovering consciousness, the patient was found to be speechless; six days later the deviation of the head and eyes to the left was still marked, but diminishing, and soon passed off. The patient still remains hemiplegic and aphasic.

The other case is also one of aphasia, but there is no hemiplegia. From time to time, however, the patient has transient loss of power in the right arm, but he also has unilateral convulsion of the right limbs, during which the head and eyes are turned to the right—toward the affected side this time, you will see, not away from it, as in the previous case.

The description of this conjugate deviation of the eyes and head as a symptom is very simple. We will consider it first as associated with the common form of hemiplegia. The head is turned toward or over one shoulder, toward which also the eyes are fixedly directed. If you ask the patient to look in the other direction, he may be quite incapable of even the slightest movement away from the abnormal position; sometimes he can get as far as the middle line, or nearly so, with the head and eyes, but no further; and if you place his head straight, the moment it is free it returns into the old position. The two eyes are

perfectly parallel ; there is no squint, except occasionally toward the end of the phenomenon.

In hemiplegia the direction of the head and eyes is always away from the paralyzed side. "The patient is always," as it has been humorously expressed, "looking for his lesion." It is in severe cases of hemiplegia that it most frequently occurs, but how often it is to be met with, and how often it is absent, I have no means of knowing. The cases in which it does occur are those in which the hemiplegia comes on suddenly ; scarcely ever when the onset is gradual or slow. Sometimes this lateral deviation enables us to diagnose a cerebral attack—for instance, occasionally a patient is brought to the hospital unconscious, with all his limbs flaccid, and this symptom being present may tell us that there has been cerebral hemorrhage, before we find it out from any other effect. As I shall show you, the symptom has no very definite relation with the position of the lesion. It is not a localizing symptom. The only association is with the suddenness of the attack, and with the severity of the hemiplegia. Still it does not imply any specially bad prognosis, but simply that the attack has been severe at the moment. A very curious fact about it is that it does not persist. In the patient who first called my attention to it here, whom I saw two or three days after his attack, the lateral deviation was diminished, and two or three days later it disappeared ; and it is the rule that the deviation is not permanent, but in four days or a week it is completely gone. While it is passing off, a slight squint may be observed—*i. e.*, the two eyes are not altogether parallel in certain positions, but this is by no means usual. Generally the rotation of the head improves first, and later the turn of the eyes. It is precisely this fugitive character of the symptom which requires explanation. The disappearance of the rotation of the head and the deviation of the eyes is not part of a general improvement, or an indication of commencing recovery ; it takes place, and the movements of the head and eyes resume their natural character, when the hemiplegia is, and remains, as decided as ever. This remarkable symptom, while it was noted from time to time, obtained no attention whatever till quite recently. As far as I recollect, the first time it was commented on in this country was at the death of Prof. Whewell, of Cambridge, in 1866, in consequence of a fall from his horse, and it is

mainly since then that it has engaged attention anywhere, although previously, as now, it must have been exceedingly common. But, as you all know, in medicine, as in other things, we see only what we are prepared to look for.

So much, then, for the symptom in itself. Now, about the lesion with which it is associated. Most commonly, according to my own experience, this is cerebral hemorrhage, but it is by no means pathognomonic of hemorrhage; the symptom occurs also with embolism and embolic softening, the only condition being that the attack of hemiplegia shall be sudden. So, again, with respect to the seat of the lesion; except that it will be found on the side of the brain toward which the face and eyes are turned, it tells us nothing. The lesion may be in the cortex of the hemisphere, and at any part of the cerebral surface, provided it gives rise to hemiplegia. Usually cortical lesions, attended with hemiplegia, are situated in the region of Rolando, but, exceptionally, we find that lesions quite far back occasion hemiplegia, and this symptom may then coexist. More commonly the lesion is in the oval white center, but still more frequently in the central ganglia at the base of the brain, the corpus striatum and thalamus, in either corpus striatum or thalamus, or when both together are involved, and whether—for here the lesion is mostly hemorrhage—the blood burst into the ventricle or not. Again, lateral deviation of the head and eyes may occur with lesions in the crus and pons and medulla. The lesions in the pons and medulla, as I shall point out, are of extreme interest, and with them the rule no longer holds that the patient looks toward the lesion.

But before I enter into any further details concerning the varieties of its manifestation, I will give the explanation of its occurrence which I advanced in 1866, and which has been confirmed by everything I have seen since. This turns on the hypothesis of the association of nerve-nuclei in the cord, of the effect of which, indeed, this lateral deviation of the head and eyes is a particular case. You will remember what this association of nerve-nuclei, about which I have had to speak so often, is, and how we arrive at it; that in every case of hemiplegia, however complete the loss of power in the limbs may be, there are certain regions of the body in which there is no paralysis whatever. Except for the lateral deviation of

which we are speaking, we have no paralysis of the ocular muscles on the paralyzed side; there is comparatively little affection of the muscles of the face; there is no paralysis of the muscles of the chest, abdomen, or back; or, but for the fugitive rotation of the head, of those of the neck. This remarkable immunity of certain muscles all down the paralyzed side has exercised physiologists a good deal, and it was considered by some sufficient to establish as a principle that the opposite hemisphere and corpus striatum were the motor centers only for the limbs, and had nothing to do with the movements of the face and body; but this explanation would create more difficulties than it removed, and it is certainly not the true one. Now, if you notice the difference between the paralyzed and the non-paralyzed parts in hemiplegia, you will find that those parts are paralyzed which are perfectly independent of corresponding parts on the other side, while those escape which always, or, at least, habitually act together with the corresponding (or other) muscles on the opposite side, and can not be thrown into action independently of them. You all know that you can move the left hand without moving the right, and so with the left leg; but you can not move the left eye and not the right eye, or the left side of the chest or abdomen alone, and you can not throw into action the muscles of one side only of the trunk anywhere. Now, this gives the clue to the immunity from paralysis of which we have spoken. Where the muscles on the two sides of the body are quite incapable of being moved independently of each other, there must be some nervous mechanism which associates their nerve-nuclei in the spinal cord. For instance, the nerve-nuclei for the muscles of the two halves of the trunk, instead of being perfectly independent and distinct, as are the nuclei for the two arms or legs, are connected with transverse bands, so that to all intents and purposes two nuclei are fused together, and we have a common nerve-nucleus for the two sides connected with both corpora striata. If, then, one corpus striatum is damaged, you still have the other, which transmits orders down to this nucleus common to both sides of the body. The corollary of this, which was foreseen in theory, turned out to be exactly true in fact. The same common nerve-nucleus which preserves muscles from hemiplegia makes unilateral chorea or convulsions of any kind bilateral in

exactly the same parts. Supposing you have unilateral chorea, and supposing the right arm and leg to be perfectly quiet and the left in continual jactitations, you will find that the chorea will cross the median line, and affect muscles on the other side exactly at points where the muscles are spared in hemiplegia—it will affect the eyes, and both will be jerked to and fro; in the face, though there is predominant motion on one side, there is chorea on both sides. The abdominal muscles and diaphragm are equally affected on both sides. We thus see that association of nerve-nuclei in the spinal cord is shown both by paralytic and convulsive phenomena.

The symptom we are considering, then, arises from this bilateral association of nerve-nuclei. If we suppose for a moment the two eyes to be one, the lateral movements of which to the right and left are effected by the two external recti, there will appear to be nothing extraordinary that, say in left hemiplegia, the left external rectus should be paralyzed, and that, like the face, the eye should be carried to the right by the unbalanced action of the muscle of the sound side. This is, to all intents and purposes, what occurs, but we have to explain the conjugation of the two eyes. Again, in the rotation of the head, if we leave out of sight all the rotary muscles except the inferior oblique (axo-atloid), the paralysis of the left will permit the head to be turned to the right. But here we have the sterno-mastoid and trapezius of one side co-operating with the inferior oblique of the other, and we have to explain the anomaly of these muscles on the hemiplegic side not merely being exempt from paralysis, but contributing to the rotation. We have, moreover, to account for the fugitive character of both rotation and deviation. The explanation turns, as I have said, on the association of the nerve-nuclei. And here is an interesting point in these two cases: both in the rotation of the head and in the lateral movements of the eyes the association between the nerve-nuclei concerned is not simply transverse, it is oblique.

Let us take, first, the lateral movement of the eyes. We are now concerned not with the up and down movements. We have engaged for the lateral movements the external rectus of the one eye and the internal rectus of the other associated together, and it is the external rectus which takes the lead in looking toward its own side. This

must be the case, because frequently, as you know, when we are looking to one side the nose comes in between the eye of the other side and the object, and as the object is thus invisible to the latter, it can only follow its fellow. Now, the external rectus is supplied by the sixth nerve, the nucleus of which is ever so far down the pons—in fact, it is so blended with the facial nucleus, that the two nuclei are almost confounded together. The nucleus of the third, on the other hand, is at the very top of the pons, and yet, as we can not by any possibility call the external rectus of one side into action without the internal rectus of the other, one sixth nerve and the opposite third must always be associated for this co-operation. But you see the association is oblique, and the fibers which connect the nucleus of the sixth nerve of one side with the nucleus of the third of the other, instead of going straight across the cord, have a considerable length to run. When, therefore, in consequence of some lesion in one corpus striatum or hemisphere, the sixth nucleus can no longer obtain its orders, the impulse from the other corpus striatum, which ultimately reaches it through the associated third, instead of simply passing across the cord, is compelled to travel a considerable distance downward, and the time required for the education of the nerve-fibers in transmission of impulses in the direction the reverse to the ordinary one, is the time during which this temporal lateral deviation of the eyes exist.

Dover's Powder in the Night-Sweating of Phthisis.

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It is a noteworthy fact that pathological sweating may be arrested not only by drugs that exert an inhibitory action upon the sweat-centers, but also by agents that in health promote perspiration.

Dr. Leared speaks highly of the Turkish bath as a remedy for the nocturnal perspiration of phthisis. He says: "The direct action of the bath has been more strongly shown in removing night-sweats than in any other symptom."

M. Vignard, of Nantes, recommends sage tea in patho-

logical sweatings. He records the case of a young man who for many years had suffered profusely from night-sweating. It generally began about two or three o'clock in the morning, and was so profuse that it saturated the bed clothes, and, to a considerable extent, the mattress also. Sulphate of quinine was tried in vain. At length M. Vignard prescribed the following preparation: "Take of chopped sage a large pinch, of water six fluid ounces. Boil the sage a minute or two in water, let it stand to cool, then filter and sweeten to taste." The perspiration ceased whenever the decoction was taken, but reappeared when it was omitted.

The employment of Dover's powder in the treatment of the night-sweating of phthisis is by no means new, and was, it is said, first suggested by Stokes, of Dublin. In 1861, M. Descamps published a paper giving the result of eighteen years' experience of this mode of treatment. The effect surpassed his expectation, the result being uniformly successful, and the sweating being suppressed from the first. "We possess," he says, "several records of cases of phthisis in which the perspiration was arrested up to the period of death. The powder was generally given in the dose of fifty centigrams (about seven and a half grains) in the evening, at different hours, according to that which announced the commencement of the sweating; and not only was it always observed that it prevented this symptom, but it also diminished diarrhea, allayed cough, and predisposed to sleep. It sometimes happened that the powder was vomited. In such cases the dose was divided into two parts; one of which was given in the evening, and the other at night when the patient awoke." Dr. Handfield Jones, referring to M. Descamps' recommendation, says that he has found Dover's powder "materially to check the night-sweats of phthisis." Dr. Hayden, in a paper read before the Medical Society of the College of Physicians of Dublin, March, 1877, speaks highly of this mode of treatment. He gives five grains once or twice in the course of the night. This treatment has been recommended by Dr. Ringer, and by M. Desnos, of the Hospital of St. Louis, Paris. Dr. Theophilus Thompson also mentions it in his lectures on consumption.

During the last two years I have taken notice of fifty-five cases of night-sweating of phthisis treated with Dover's powder. In only five of these cases did the drug

fail to afford some relief. Of the successful cases, thirty-four were men and sixteen were women. With two exceptions they were adults in the prime of life, their ages ranging from nineteen to thirty-six. The cases under treatment represented all stages of the disease. In some there were hardly any physical signs, while in others, both lungs were extensively diseased. In eighteen cases cavities were diagnosed. In fifteen cases both lungs were involved, while in the remainder only one lung was affected, or there were no physical signs. The duration and severity of the night-sweating varied much in different cases, but in all it was well marked. As a rule, the Dover's powder was given only at bedtime, but in a few cases small doses were given several times a day, though without any corresponding advantage. It was found that to do any good five or ten grains must be given, and ten grains usually acted more promptly than five. Smaller doses usually failed, while, on the other hand, there was no advantage in giving more than ten grains. Frequently, for convenience of dispensing, the Dover's powder was administered in five-grain pills, but in many cases the powder itself was used. In most cases the patients, while taking the Dover's powder, had no other medicine, except, perhaps, a placebo of camphor-water or peppermint. In other instances the Dover's powder was not allowed to interfere with the general treatment, the patient taking cod-liver oil, cough medicines, and so on. The Dover's powder acted equally well whether given alone or with other remedies. As a rule, there was an improvement upon the first or second night, but sometimes the sweating did not entirely cease for a week or more, declining gradually in severity. Sometimes the sweating returned immediately upon discontinuing the medicine, but in other cases there was no relapse for a month or longer. In no single instance was the treatment found to do harm. It often, in addition to stopping the sweating, eased the cough, and insured a good night's rest.

ILLUSTRATIVE CASES OF THE USE OF THE DOVER'S POWDER IN NIGHT-SWEAT.—The following may be taken as a fair average example of what Dover's powder can do. It is not by any means an exceptional case, and it would have been quite easy to pick out other cases in which relief was most prompt:

R. W., a bookbinder, aged twenty-six, had suffered from a slight cough for ten months, but it was only during the last three or four weeks that he had any expectoration. He was extremely emaciated, and had lost a stone in weight in six months. He was very feeble, and had great difficulty in doing his work. There had been no hemoptysis. He had suffered from night-sweats for about three weeks, never missing a night. He usually went to bed about ten, and awoke in the early morning covered with moisture. He was so wet sometimes that it left a mark on the sheet where he had been lying. The physical signs were : at the left apex flattening, deficient movement, increased vocal fremitus, dullness, and coarse crepitation; on the right side, impaired resonance and a little scattered crepitation. He was ordered ten grains of Dover's powder every night at bedtime, and a little infusion of quassia as a placebo. For two nights there was no improvement, but on the third night the sweating was much less. On the fourth and fifth nights it was very slight, indeed, and upon the sixth there was none at all. The pills were then discontinued, and, with the exception of one night, there was no sweating for four weeks. It then returned, the patient suffered severely for three or four nights, and then recommenced taking the pills. The sweating was again checked in four nights, the pills were discontinued, and there was no further relapse during the time the patient remained under observation, a period of six weeks longer.

Even in cases rapidly progressing to a fatal termination Dover's powder will keep the perspirations in check.—*London Practitioner.*

Gelsemium in Neuralgia.

PROF. MASSINI, of Basel, recounts his experience of the use of this drug in the treatment of eighty cases of neuralgia of the trigeminus. He prefaces his remarks with a brief description of the physiological action of the drug. Redness of the conjunctiva, pain in the eyelids, contraction of the pupils, double vision, and giddiness, are the symptoms which generally follow the administration of moderate doses. When the dose is increased, slight ptosis, dilatation of the pupil, gasping, languor, and pain in the

limbs, are the usual results. The respiration is not affected. In frogs, on the other hand, a large dose produces paralysis of the respiratory muscles, the heart's action remaining unchanged. In cases of neuralgia of the trigeminus, Dr. Massini gives twenty minims of the tincture every half hour up to three doses, and he finds that the first dose generally affords relief, and that the pain rapidly subsides after a second or a third dose has been taken. He has never found it necessary to exceed sixty minims, and only in one case did this quantity produce unpleasant head symptoms. The cases in which the remedy produces most benefit are those of simple rheumatic neuralgia of the alveolar branches of the trigeminus; in those it rarely fails. It also sometimes relieves the pain remaining after the stoppage of a carious tooth. When there is any inflammatory affection of the bone or periosteum, no good can be expected from the remedy. The medicine may, if necessary, be repeated several days in succession, the active principle rapidly passing off by the kidneys.—*Dublin Journal of Medical Science.*

Renal Inadequacy.

DR. ANDREW CLARK, at a meeting of the London Medical Society, read a paper "On Renal Inadequacy." He began by remarking that he was often painfully struck by the great number of people suffering from ill-health of which no sufficient explanation could be given. There was, he said, no doubt that the progress of knowledge was steadily lessening this ignorance, and explaining, by the discovery of dynamical or statical conditions hitherto overlooked, cases supposed to have their origin in the distant ancestry of the patient, and believed to be practically inexplicable. Some of these cases, he believed, took their rise in a feeble and disorderly nervous system; some in a vicious digestion; some in an imperfectly acting skin; some in unsuitable conditions of life and work; some in abuse of tea, coffee, tobacco, alcohol and other narcotics, and some in the derangement of the chemical changes which accompany and determine assimilation and disassimilation. There remained, he thought, numbers sufficient to demand and reward inquiry. Many of these cases of ill-health found their explanation in deficient

excretion. As examples of this, he mentioned cases of anæmia and chlorosis due to fæcal poisoning, and curable by purgatives. But a far larger number, he believed, were due to a deficient excretion of urinary solids. "By renal inadequacy I mean that state of kidney in which it is unable, without material diminution of quantity, to produce a urine containing the average amount of solids and of a specific gravity greater than 1014." The deficiency of solids chiefly affects the urea and uric acid. The urine was pale, almost invariably free from albumen, and deposited no casts. He did not profess to determine what was the exact pathological state of the kidney; but he conjectured that it was one of slight withering and induration, just as sometimes the skin is found withered, hard, and incapable of producing a true unctuous sweat. This renal inadequacy had, so far as he could see, no characteristic symptoms, and we found it out only by searching for a cause which should be found adequate to the explanation of the patient's trouble. The symptoms and signs most commonly associated with renal inadequacy were flatulent dyspepsia; palpitation, with a very feeble and interrupted capillary circulation; a dry, shiny, waxy skin; numbness, tingling, cramps and pains in the limbs, occasional flushes, worry of brain, and general nervousness; sometimes thickening of the terminal joints of the fingers, and sometimes, but rarely, evidences of gout. One knew in a given case that these symptoms were due to renal inadequacy, not merely because there was a grave deficiency in the excretion of urinary solids, but because whatever diminished that secretion, or whatever added to the amount of solids to be excreted, invariably within a short time aggravated the patient's sufferings. Three things were of great importance in these subjects. They are exceedingly vulnerable; they repair very slowly the damage done by accident or disease; they bear very badly the shock, however slight, of surgical operations—a fact mentioned by Sir James Paget (Clin. Lectures, p. 44). As to prognosis, this state seemed capable of indefinite prolongation without serious secondary injury to the organism. Under unfavorable circumstances and bad management death might occur from some local inflammation, from cerebral or other hemorrhage, or from the so-called pyæmic fever springing unexpectedly out of some, perhaps trifling, surgical operation. He then enumerated

what he considered the special characters and appearance of patients who had been the subject of renal inadequacy for over four or five years: "They have at least a marked and striking physiognomy; they increase in flesh; they become puffy without being distinctly oedematous; the skin becomes drier, more shiny, and yellower; the features swollen almost to distention; the pupils are dilated; the lips and cheeks of a bluish red; the articulation deliberate and somewhat difficult, and the whole intellectual tone and manner subdued and slow." From one side the physiognomy was like that of pernicious anæmia, from another like that of chronic Bright's disease, and yet it seemed distinct from both. As to treatment, much might be done by good management, by which he meant the adjusting of the quantity and quality of the food to the diminished excrementitious activity, the withholding of such agents as directly lessen the secretory power of the kidney, aiding the kidney in its work by making the supplementary excretory organs fulfill that part of the work which the kidney was unable to do, and generally by placing the patient in those conditions which would give the organism the greatest power for resisting the inroads of disorder, and for making sufficient compensation when complete repair was unattainable. The tepid bath, followed by vigorous friction, the use of warm clothing, and the avoidance of passing exposure to cold and damp, with gentle exercise daily in the open air, were indicated. The diet should be light; stimulants should be avoided except to the extent of one glass of claret or other light wine, twice a day. The medicines he had found most useful were small doses of arsenic with reduced iron at meals, and an occasional mercurial alterative. If digestion was disturbed, he discontinued the iron and arsenic, giving the patient bitters with alkalies between meals, and a mercurial alterative every third night for two or three times. He concluded by narrating a case which he first saw some years ago. By a strict adherence to a limited dietary, and by the use of purgatives and diaphoretics, this patient improved so much as to consider himself quite well; whereas, when he was taking food and wine every two hours, it seemed that the more he took the worse he became. A very remarkable fact about this case was that as his supplies of food and wine were reduced, the patient's urine steadily rose in density from 1003 up

to a very fair standard; and in three weeks he left town declaring himself quite well. When seen six months ago this patient seemed and declared himself to be quite well, his only complaint being that he could not relax his dietary without being ill. Dr. C. T. Williams said these cases were generally treated as dyspeptics. He asked whether weight was gained or lost under the restricted diet, whether there was corpuscular deficiency or excess in the blood, or any signs of anæmia. Dr. Gilbert Smith asked whether it was due to renal defect or blood change. Did the kidneys refuse the blood, or did the blood refuse to go to the kidneys? Had these organs been examined after death? Dr. Routh said there was no proof that the author's dictum was correct, and inclined to believe the ailment due to defective assimilation, and, therefore, lessened amount of salts in blood and urine, rather than to renal inadequacy. Dr. Dowse had seen several cases similar to those described by Dr. Clark, but had never examined the kidneys after death. He did not for a moment doubt the existence of such a condition as renal inadequacy. Dr. Symes Thompson agreed that the kidneys must be at fault in these cases. He had not known that a diminished diet could increase the specific gravity of urine. Dr. Ewart wished that we could detect the condition of renal inadequacy before the cases had gone so far as that only a rigid diet would keep them in health. Dr. Andrew Clark replied, urging the facts that proved the existence of such a state as renal inadequacy; that retention of excreta leads to disease, and that in a case he had at the London Hospital nitrogenous diet increased the defective action of the kidneys. Some of the patients gained weight, others lost flesh on the strict *regime*. The blood did not appear abnormal. Apparently normal skin sometimes refused to perspire normally. Why should not a kidney which refused to act yet show no apparent change?—*Lancet*.

THE SALIVA PRODUCED BY THE ACTION OF JABORANDI.—M. Vulpian reported to the Academy of Sciences, that the saliva secreted by patients under the effect of jaborandi, and who had albuminuria, contained three times as much albumen as that of healthy individuals. These observations have been confirmed by experiments conducted by M. Strauss.—*Progres Medical*, Oct. 11, 1879.

MICROSCOPY.

The Structure of Colored Blood Corpuscles.

ALMOST all investigators nowadays agree that the colored blood-corpuscles of birds, reptiles, amphibia and fishes have a nucleus; while in those of man and other mammalia, except in developmental forms, a nucleus does not occur. On this difference, *Gulliver* has founded his division of all vertebrate animals into Pyrenæmata and Apyrenæmata.* But the existence of a nucleus in living corpuscles of oviparous vertebrata has been denied on the one hand; while, on the other, the opinion has been advanced that the mammalian red corpuscles, as well as those of other vertebrata, are, in reality, nucleated.

Not to cite older authors, I will mention that *Funk*† asserts that the nucleus of nucleated blood-corpuscles does not exist during life, but is a product of decomposition after death. Likewise *Savory*, in a paper‡ read before the London Royal Society, urged that "when living, no distinction of parts can be recognized; and the existence of a nucleus in the red corpuscles of ovipara is due to changes after death, or removal from the vessels;" and, furthermore, "the shadowy substance seen in many of the smaller oviparous cells after they have been mounted for some time, is very like that seen under similar circumstances in some of the corpuscles of mammalia." But *Bottcher* has reported|| seeing nucleated blood-corpuscles in the capillaries of living frogs, and more recently *Hammond* saw a nucleus in the red blood-corpuscles of young trout, varying as to age from a day to three weeks, swim-

* "Lectures on the blood of vertebrata" l. c.; in "Journal of Anatomy and Physiology, vol. II.; Proceedings of the Zoological Society of February 25, 1862; and Hunterian Oration, 1863, referred to in "Observations on the sizes and shapes of red corpuscles of the blood of vertebrates, with drawings of them to a uniform scale, and extended and revised Tables of Measurements." Proceedings of the Zoological Society of London for the year 1875. Part III. p. 479.

† *Lehrbuch der Physiologie*. Leipzig, 1863, vol. I. p. 17.

‡ "On the Structure of the Red Blood-corpuscles of Oviparous Vertebrata." Proceedings of the Royal Society, XVII. 1868, 1869. (Read March 18, 1869.) Monthly Microscopical Journal, April, 1869, p. 235.

|| "Untersuchungen über die rothen Blutkörperchen der Wirbelthiere." Virchow's Archiv, vol. 36 (1866), (pp. 342-423), p. 351.

ming in a cell full of water;* and, afterward, also in those of the tail of frog-embryos and in other animals.†

Bottcher has, by numerous methods, and, for a long time, sought to demonstrate the existence of a nucleus in mammalian red blood-corpuscles. In his first publication† he gave a historical sketch of the literature of the subject, and described the effects of chloroform, magenta, tannin, and other reagents. He also treated corpuscles with serum of other blood; next|| he placed them in aqueous humor ("methods which alter the red blood-corpuscles as little and as slowly as possible;" afterward§ he treated them with alcohol and acetic acid, and still more recently¶ by means of a concentrated alcoholic solution of corrosive sublimate (methods of "hardening the blood-corpuscles and then extracting the hæmatin from them"). *Freer*, using reflected instead of transmitted light (by means of Wales' Illuminator), affirmed** independently of *Bottcher*, the existence of a nucleus in human blood; and *Piper*†† seems very desirous to confirm *Freer*. *Brandt*, having,‡ in the red blood-corpuscles of living *Sipunculus*, occasionally found a nucleus, though usually there is none, thought that, perhaps, the nuclei are unstable formations, which, by slight influences, are produced or made visible, and by others are destroyed or made invisible; on examining a drop of blood from his finger, on which he had before picking placed a little fresh chicken albumen, he usually found in many red corpuscles what he was inclined to interpret as a central

* "Observations on the structure of the red blood-corpuscles of a young trout." *Monthly Microscopical Journal*, 1876, pp. 282, 283.

† "Observations on the structure of the red blood-corpuscles of living pyrenæmatous vertebrates." *Id.*, September, 1876, p. 147.

‡ The "Untersuchungen" just cited, pp. 359, 363, 367, etc., and 376.

|| "Nachträgliche Mittheilung über die Ensfärbung rother Blutkörperchen und über den Nachweis von Kernen in denselben." *Virchow's Archiv*, vol. 89 (1868), pp. 427, 435.

§ "Neue Untersuchungen über die rothen Blutkörperchen." *Mémoires de l'Acad. Imp. des Sci. de St. Petersburg*, VII. Ser., t. 22, No. 11.

¶ Ueber die feineren Structureverhältnisse der rothen Blutkörperchen." *Archiv für Mikrosk. Anatomie*, vol. XIV. (1877), pp. 73-93.

** "Discovery of a new anatomical feature in human blood-corpuscles." *Chicago Medical Journal*, May 15, 1868, and April 15, 1869.

†† "Contraction of Blood-corpuscles through the action of Cold." *New York Medical Journal*, March, 1877, p. 244.

‡‡ "On the nucleus of red blood-corpuscles." *Arbeiten der St. Petersb. Gesellsch. d. Naturf.*, vol. VII. (1876), p. 129. (In the Russian language.)

nucleus, in confirmation of the observations of *Bottcher*.* More recently *Stowell* has written a communication to corroborate *Bottcher*.† And *Stricker* has expressed the opinion that the nuclei of embryonal colored blood-corpuscles of mammals persist as circular thin disks; he argues that these "disks are so large that the body proper of the corpuscle appears on a surface view as only a narrow zone; and that, therefore, except with high powers, the existence of a nucleus is easily overlooked; and he asserts that, by means of objective No. 15, he has, in the blood-corpuscles of man, dog, rabbit and cat, seen the nucleus in both surface and profile views.‡

On the other hand, *Schmidt* and *Schweigger-Seidel*, who repeated *Bottcher's* early methods, using especially chloroform as he had done, failed in finding nuclei, and suspected optical illusion.¶ *Klebs* contradicted *Bottcher's* statements as to the presence of nuclei in normal mammalian red blood-corpuscles; but described the occurrence of nucleated red corpuscles in blood taken from the corpse of a child who had suffered from leucæmia, agreeing in so far with a like observation of *Bottcher's*. *Brunn* said¶ that he had convinced himself that the appearances produced by both of *Bottcher's* later methods are artificial and optical effects, due to action of the reagents on the substance of the corpuscles. And, similarly, *Eberhardt* has come to the conclusion that the remains after the action of different decolorizing reagents, are not nuclei, but stromata deprived of coloring matter; and that a formation, unmistakably a nucleus, has not yet been demonstrated in adult human and mammalian red blood-corpuscles.**

* Bemerkungen über die Kerne der rothen Blutkörperchen. Archiv. für Mikrosk. Anatomie, XIII., 2 (1876), p. 392.

† "Structure of blood-corpuscles." American Journal of Microscopy and Popular Science, New York, June, 1878, p. 140.

‡ Vorlesungen über allgemeine und experimentelle Pathologie, II. Abtheilung. Wien, 1878, p. 438.

¶ Einige Bemerkungen über die rothen Blutkörperchen." Bericht der Königl. Sächsischen Gesellschaft der Wissenschaften, 1867, 190.

§ "Ueber die Kerne und Scheinkerne der rothen Blutkörperchen der Jäugethiere." Virchow's Archiv. vol. 38 (1867), p. 200.

¶ "Ueber die den rothen Blutkörperchen der Säugethiere zugeschriebenen Kerne." Archiv. für Mikroskopische Anatomie, vol. XIV. Heft 3 (1877), pp. 333-342.

** Ueber die Kerne der rothen Blutkörperchen der Säugethiere und des Menschen. Inaugural-Dissertation der medizinischen Fakultät zu Königsberg. April, 1877, p. 30.

	“Numerical Aperture.”	
Zeiss's homogeneous immersion (Abbe's formula, 1879)....	$\frac{1}{8}$	1 40
Tolles's oil immersion (1879).....	$\frac{1}{12}$	1 30+
“ “ “ “ ”	$\frac{1}{10}$	1 30+
“ water immersion (1876).....”	$\frac{1}{12}$	1 28+
Zeiss's homogeneous immersion (1878).....	$\frac{1}{18}$	1 25+
Tolles's water immersion (1877).....	$\frac{1}{10}$	1 20+
“ “ “ “ (1875).....”	$\frac{1}{10}$	1 20
“ “ “ “ (1876).....”	$\frac{1}{8}$	1 20
Powell and Lealand's oil immersion (1879).....	$\frac{1}{8}$	1 20
“ “ “ water “ new formula (1875). ”	$\frac{1}{4}$	1 18
Tolles's water immersion (1874) belonging to Mr. Crisp.	$\frac{1}{6}$	1 15+
Powell and Leland's water immersion new formula (1875).....	$\frac{1}{8}$	1 15+
Nobert's water immersion (1867).....	$\frac{1}{24}$	1 00+
Hartnack's water immersion (1867) No. 12 =.....	$\frac{1}{31}$	1 00+
Prasnowski's water immersion (1874).....	$\frac{1}{32}$	1 00+
Gündlach's water immersion (1874).....	$\frac{1}{16}$	1 00+

San Francisco Microscopical Society.

A very interesting paper was sent in by Melville Atwood, Esq., and read by Vice-President Kinne. Specimens of rock sections accompanied the paper, which were shown and explained by the Secretary. Mr. Atwood's paper was on "The Importance of a Classification of Metalliferous Veins."

Of all the speculative employments, mining is, perhaps, the most uncertain. Miners of great experience and ingenuity are frequently at fault, and sometimes completely

defeated in their search after paying ore-bodies, and the mines abandoned, while men of less ability have afterward worked the same mines, from which they have derived large profits—so that any plan or method which tends to throw light on the subject, and assist the miner in his explorations, should be considered of value.

The proper classification of metalliferous veins or lodes appears to me to be one of the first things required.

Some rocks are of a coarse and simple structure, and their mineral constituents may be resolved by the unaided eye, but by far the greater number are of so fine-grained texture as to defy ocular analysis, so that for their determination the use of the microscope is indispensable.

Last year I had the pleasure of calling your attention to a simple mode of preparing rocks for examination of the *outer* surfaces with the assistance of a common pocket magnifier, which I then thought would be of great assistance to the miner, in helping him to correctly determine the character of many of the enclosing rocks, and in many instances it was quite sufficient; but for a *correct* determination, after all, the microscope must be used, and at that time a cheap and easy way to cut the rock-sections was the difficulty I had to contend with. After many experiments, I found a simple plan by which it can be done at little cost and labor, by the use of a few emery stones, or blocks, of different degrees of fineness—say, from one and a half to two inches square, and eight or nine inches long—the same as I have brought here for your inspection. The chips to be cut should be first made as thin as possible; the plan recommended by Mr. Rutley, to use a cold-chisel, the end let into a block of wood, and then by holding the specimen on the edge of the chisel, and striking it a sharp blow with a light hammer, will generally give you a satisfactory chip. The chip must then be rubbed on the emery blocks, with water, till you get a good, even surface on one side of it, commencing with the coarse emery blocks first; then, with Canada balsam, fasten the smooth surface of the chip to a common glass slide, which is done by heating the slide over a spirit-lamp and then applying a small quantity of the balsam. As soon as the balsam liquefies, press the smooth surface of the chip into it, and then allow it to cool. The balsam is better to be dried, so that you can use it like a stick of sealing-wax. As soon as the slide and chip are cold, you can

commence to rub the outer, or rough, surface of the chip attached to the slide on the emery blocks until you get it nearly thin enough for mounting. To finish, use the fine, smaller blocks, as you would a file. You can hold the section up to the light and examine it during the operation. Mount and cover the section with thin glass, in the usual way.

GLEANINGS.

A CASE OF EAR-SNEEZING, by Jas. Russell, M.D., is reported in the *British Medical Journal* of December 13, 1879.

An explanation of the prominent phenomenon in the following case, viz., the constant attacks of sneezing through two days and nights, occasioned apparently by acute inflammation of the middle ear, will be found in a short paper by Dr. Lockhart Clarke on the Phenomena of Ear-cough, in the number of this journal for January 15, 1870. Were argument needed for transferring the reasoning therein from the process of coughing to that of sneezing, the concluding sentence of that paper would afford it: "With regard to the anatomical connection and the mechanism by which I have shown that impression made on the vagus and on the incident fibers of the trifacial and spinal nerves, may call into action the whole class of respiratory muscles, see my memoir." It appears, also, that some sudden change within the cavity of the tympanum in my patient, a change followed by instant deafness, acted upon the heart, through the inhibitory influence of the vagus, and produced fainting. It is also worth noting that there was no vertigo present, the labyrinth having probably escaped. I have commented on another occasion upon the distinction between vertigo and fainting, in connection with a case of the so-called gastric vertigo.

A man, aged fifty-six, nervous temperament, an outpatient of the Birmingham General Hospital, was in his usual health a fortnight ago, when he was suddenly taken with "a kind of gaping and sneezing;" the gaping seemed to come from his heart. The sneezing was incessant during the next two days and nights; "he could not tell the quantity of times he sneezed." At last, in the afternoon

of the second day, after a dreadful sneezing fit, he tumbled down, and was unconscious for two or three minutes; on recovering he was completely deaf, so much so that, not knowing what had happened, and crossing the street soon afterward, he narrowly escaped being knocked down by a passing vehicle. On the following afternoon he began to hear on the left side, but the sound seemed "to come the contrary way;" if from the front, it appeared to come from behind; if it started from one side of the street, it appeared to come from the opposite side. Ever since, he has been "in agony" from a thumping through the ears, like a pulse beating very quickly, with a constant whizzing and a flutter in the ears. When the thumping ceased, "it was like a toothache behind the ears." He has not had any cough or vertigo whatever. Dr. Malet, our house physician, examined the ears for me, and found the left ear full of wax; this having been removed, it appeared that both tympana were acutely inflamed at the attachment of the ossicles, the right very severely, being almost in a state of suppuration. After syringing, I found that the patient distinguished a faintly ticking watch only within three-quarters of an inch of his left ear; a loudly ticking watch, at eight inches. On the right side he heard nothing, even when the watch was applied to the ear or to the cranium.

REMARKS ON THE ROUTINE USE OF THE OPHTHALMOSCOPE IN CEREBRAL DISEASE.—*Edinburgh Medical Journal*: In this pamphlet Dr. Hughlings Jackson again draws attention to the importance of ophthalmoscopic examination in cases where symptoms which might be referable to cerebral disease are present. The habit of examining the optic discs in all such cases is the more important, as frequently no clue is afforded by the state of the patient's vision, which may be perfect even although an evident and even an extreme degree of optic neuritis exists. This fact the author not only strongly insists upon as a conviction derived from his own extensive observations, but quotes like statements from the writings of Graefe, Manthner, Liebreich, Carter, Wecker, Albutt, and others. He relates a case in which tumor and cyst of the right lobe of the cerebellum was found after death, and remarks: "For some time this patient had only three symptoms, the three so often found together, viz., headache, vomit-

ing and double optic neuritis. Now, at the most important state of the case the third symptom (optic neuritis), as I have said, would not exist for those who do not use the ophthalmoscope *by routine*. Without it the diagnosis would have been erroneous. It is true that from *very* severe headache and vomiting we may *guess* intracranial tumor; but who *would* ever guess it in a perfectly healthy-looking, blooming girl, who was in good flesh, and occasionally apparently absolutely well. This, indeed, is the *beau-ideal* of a case to be mistaken early in its course for 'disease of the liver.' How often do we hear of amaurosis, caused by 'bilious fever!' To encourage such a mistake was the fact that the girl had always been subject to 'bilious attacks.' Another mistake would be hysteria. Of these mistakes neither could be made if the patient's optic discs were looked at. We did look at them, and from what we saw we were absolutely certain that there was intracranial disease, and we predicted tumor." With reference to the treatment of optic neuritis, when taken in time, Dr. Jackson says: "In all the cases I have seen of recovery from optic neuritis, the patients had taken large doses of iodide of potassium. Whether they would have recovered if left alone, that is, whether sight would have failed, I can not tell. My belief is, however, that iodide of potassium administered in the earliest stage of optic neuritis would save many from blindness. It can, of course, do no good for the tumor, unless it be syphilitic, but it does, I think, for the inflammation of the optic nerves."

INTRA-UTERINE VACCINATION AND SMALL-POX.—From the *British Medical Journal*.

In a note on this subject in the *Journal* for November 22d, reference was made to the case of intra-uterine vaccination quoted by Dr. Bollinger as recorded by Dr. A. S. Underhill, of Great Bridge. It may be of interest to state that this case was one in which a lady, revaccinated when eight months pregnant, the resulting pocks being very large and full of lymph, was delivered of a child which was vaccinated at the age of three months with fresh, carefully taken lymph. No effect whatever was produced on the arm; and, about a month afterward, the child was again vaccinated, particular care being taken to well rub in the lymph; but the result was again unsatisfactory.

Dr. Underhill's explanation was, that the vaccine virus, thoroughly pervading the system of the mother, had directly influenced the child, and made it not susceptible of taking again the virus. To this view Mr. Burton, of Birmingham, objected (*Journal*, Vol. I, 1875), observing that, when he had charge of the Birmingham Small-pox Hospital, he practiced vaccination in several instances upon women at various stages of pregnancy, and he had not a single case of unsuccessful vaccination among the children.

An analogous case of a somewhat striking kind, though relating to variola instead of vaccinia, is recorded by Dr. Cory in the last volume of St. Thomas's Hospital Reports. A woman gave birth, on December 14, 1877, to a child at full time. On June 13th previously, and consequently when about four months pregnant, she had been admitted into the Small-pox Hospital at Hampstead, suffering from an unmodified attack of small-pox. On May 21, 1878, she brought her child to the Surrey Chapel station for vaccination. She was then deeply pitted, and had lost most of her hair. The child showed no evidence of having had the disease. It was vaccinated, with the result of having five good characteristic vesicles, which went through a regular course, except that the areola on the eighth day was well developed.

NATURE OF THE YELLOW FEVER POISON.—Dr. H. D. Schmidt, pathologist of Charity Hospital, New Orleans, has had numerous opportunities for investigating the nature of the poison of yellow fever. He takes a decided stand against the germ theory, claiming it to be a disease depending, like small-pox, scarlet fever, measles, etc., upon a specific poison of animal origin, a product of the diseased human organism itself. In support of this position, he adduces the immunity from a second attack, which it possesses in common with all other specific diseases. The pathology of the disease also distinguishes it from those affections in which *contagium vivum* has been found, for in the place of the venous congestion, ecchymosis, softening of the spleen, and loss of coagulability of the blood, which are characteristic of this class, we have arterial congestion, normal spleen and retained coagulability of the blood, although the latter has been erroneously reported as lost. In severe cases hemor-

rhages may take place from different mucuous membranes, but hemorrhagic effusions into the interior organs are but seldom observed. The most characteristic phenomenon, however, is the fatty infiltration or degeneration constantly met with in a number of organs. The poison emanates from the body of the affected individual only in the gaseous form, and in this form may be absorbed by another individual, or, adhering to clothes, bedding, etc., may be transported to distant places, and there become other centers for distribution. As in the case of putrefaction, septicæmia, *the poison increases in intensity with each individual through whom it passes*; explaining the fact that the fatality of the disease increases as the epidemic advances. No bacteria, or other living organisms, are found in the blood of patients in any state of the disease. The prevention of disease involves the interesting and unsettled question of quarantine, and the perfect isolation of the first cases would certainly appear to be the most important sanitary measure.

ON ACUTE LEUCOCYTHÆMIA OCCURRING IN DIPHTHERIA.—Prof. Bouchut made daily enumerations of the blood-corpuscles in all the cases of diphtheria that came under his observation within a period of six months, the number of analyses amounting to one hundred and seventy-seven, and from the results obtained he has deduced the following conclusions: In severe septicæmic diphtheria there is always an acute leucocythæmia, which increases as the disease progresses and diminishes when convalescence sets in. On the other hand, in the mild cases of diphtheria without septicæmia, there is no leucocythæmia, and the children always recover. In twenty-four cases, studied day by day throughout the whole course of the disease, the number of white globules varied between 5,000 and 10,000 in twelve out of ninety-three analyses, and between 10,000 and 100,000 in the other eighty-one, the average being 26,824. Prof. Bouchut insists on the necessity of daily examinations of the blood, as the number of white globules may be normal in one day and greatly increased in the next. He claims that valuable prognostic data may be gathered from these examinations, a rapid increase of the white globules indicating the occurrence of septicæmia, and pointing almost positively to a fatal termination, while a persist-

ence of the normal relations between the red and white globules indicates a mild form of the disease, and almost certain recovery.—*Gazette des Hopitaux*, February 18, 1879.

PHLEBOTOMY IN DERMATOLOGY.—*British Medical Journal*: Certain skin diseases are relieved or cured by blood-letting when other remedies fail. For instance: an elderly gentleman, formerly a great sportsman, and accustomed to good but not extravagant living, was attacked, when near seventy years of age, with a most troublesome form of eczema (*rubrum*), which soon became the torment of his life, allowing him no rest either night or day, and was repulsive to his natural sense of cleanliness and neatness of person. He was treated for some time at home without relief, and then went to London, and was under the care of one or more of the most famous dermatologists then in town for several weeks; he returned home without having received any permanent benefit. He became almost worn out with irritation and disappointment, when it occurred to a neighboring retired medical man that it might do good to bleed him, and to this he consented; but at first no blood would escape from the wound, afterward a little flowed of the consistence of thick treacle, and at last some of a more fluid character was obtained, with the result, in short, of a complete cure. He lived to be eighty-two years of age, and never had any return of his skin disease.

LEGAL POISONING.—We are somewhat reluctantly induced to publish an account of a case which is of the greatest moment to the public and to the profession. The facts are these: An American lady, two years back, applied to a well-known West-end physician. She was supplied with two prescriptions; one for a pill containing one grain of opium, another for a mixture of chloral and bromide, ten and fifteen grains respectively. Neither of these doses could for a moment be called excessive, and the mixture was only to be taken at bedtime. But what was the result? Once in possession of these documents, the unfortunate lady set herself to work to procure unlimited quantities of the two medicines by making use of the same prescriptions over and over again, first at one shop and then at another, often procuring double quantities. Death and an inquest followed. Once, apparently,

procure a prescription for any noxious or poisonous drug, for whatever purpose, and ever after this same drug is at the command of any one who may be able to lay hands upon the prescription! There are frequently ordered mixtures containing such substances as aconite, strychnine, prussic acid, or belladonna, to say nothing of opium, which once out of the physician's hands are at the will of the world. Nay, more, it is a well-known fact that if a certain prescription has done good to one, it may be circulated among the members of the family or kindly friends in the neighborhood. Surely under such circumstances it is grossly unfair to hold a physician answerable for what may happen. Were the property in the prescription vested in the physician, such things could not occur. Were the medicines dispensed, as in olden days, by the practitioners themselves, that could not occur. The mischief arises solely from the hiatus which now exists between physicians and chemists, whose interests, taking this case for example, do not seem to be identical. The physician would prefer to give a fresh prescription and receive a fresh fee; the chemist undertakes to save the physician's guinea to the patient by constantly dispensing the same prescription; and if one will not do it another will.—*Medical Times and Gazette.*

THE WISDOM OF THE PAST.—The following are quoted by the *British Medical Journal* from among the graduation theses, which were defended with a great display of eloquence, in the fifteenth and sixteenth centuries, in Paris, at the Medical School, Rue de la Bucherie. The answer to each question is affirmative. Does Venus beget and expel diseases? Are the plague and venerie affections of divine origin? Is wine good for healthy individuals, as well as for invalids? Ought patients, sick with fever, to prefer a fish diet to a flesh diet? Has the plague been sent down from heaven? Has the moon any influence on the humors of the body? Do mineral waters make women more fruitful? Are short women more fruitful than tall women? Is wine the milk of old age? Is Aurora the friend of Venus? Can a toad be begotten in a man? Is it healthy for old people to put themselves into a passion? Are heroes given to melancholy?

DR. WARLOMONT'S VIEWS UPON ANIMAL VACCINATION.—Condensed from the *Medical Times and Gazette*: "In

my view animal vaccination should have no tendency to forcibly supplant vaccination from arm to arm. They are in fact two sisters, and must not be separated. . . . Vaccination from arm to arm, strong in its ancient rights, is, and will long remain, the greatest strength against small-pox, and nothing ought to be omitted to encourage and regulate it. Animal vaccination ought now only to be its faithful auxiliary, but an auxiliary so useful that it would be as unjustifiable to pass it by as to desire to upset suddenly the classical method." Dr. Warlomont does not believe that lymph degenerates by passing repeatedly through the human body. He admits that he did himself, some years ago, bring forward the idea that the vaccine lymph may deteriorate after long humanization; but, he says, at the present time nothing proves to him, nothing tells him, that lymph can degenerate. The assertion that it deteriorates has been made, but its truth has not been proved; and he pertinently inquires, "Have small-pox or syphilis lost their vigor by lapse of time?" Of the possibility of the transmission of syphilis by vaccination there can be no doubt, and such a possibility assuredly ought to be guarded against.

GONORRHŒA.—Bauer's method of treating gonorrhœa—based upon the theory that it is purely a local disease, the protecting layer of epithelium being thrown off, and the epithelial cells converted into pus cells and discharged, leaving the mucus membrane exposed—is simply the use of a bland injection, which is followed by immediate relief to the pain, and usually results in a cure in about six days, as follows:

Inf. flax seed, \mathfrak{z} vi.

Watery ext. opium, gtt. xvijj.

Mix.

To be injected warm every three hours and retained for a few minutes.

CASTOR OIL.—"CHILDREN CRY FOR IT."—Surgeon Major Starcke, in a Vienna medical journal, has stated that by mixing with castor oil as much raw sugar as will convert the whole into a thick, muddy consistence (about three parts of sugar to one of oil is necessary), flavoring with a little cinnamon or other spice, children will swallow the medicine eagerly. "They will struggle," he says, "for

the favor of licking the spoon." The dose for adults prepared in this way is so great that he recommends in preference the addition of a little compound liquorice-powder to the oil (about one to two), to make boluses, which are easily swallowed.

ANÆSTHESIA AT ST. BARTHOLOMEW'S.—In this hospital, adult patients are not chloroformed, but are anæsthetized with a mixture of ether and nitrous oxide. It is claimed that this mixture works more quickly, and with less discomfort to the patient than pure ether. The anæsthetic is administered with an inhaler, which consists of a mouth-piece, connected by a rubber tube with a reservoir which contains the anæsthetic, and is arranged so that any desired portion of air can be admitted. Chloroform is given, however, to patients under fourteen years of age, and it is not considered dangerous to children.—*John B. Wheeler in the Boston Medical and Surgical Journal.*

ELECTRICITY IN AMENORRHEA.—Electricity Dr. Golding-Bird considers the only direct emmenagogue we possess, and that it always excites menstruation where the uterus is capable of performing that function. Electricity is especially valuable as an emmenagogue in young women, where the menstrual function has not yet been fully established in consequence of a torpid state of the vasomotor nerves of the ovaries and uterus; and also when the catamenia have been suppressed after labor, or in consequence of a chill or emotion.

GLEET.—We agree with Dr. Will (*Edinburgh Med. Jour.*) in recommending as the best and safest of all remedies for the cure of gleet "the passage once or twice a week of a cold, well-oiled metallic bougie, combined with the internal use of cantharides or ergot."

BALSAM OF PERU IN PRURITUS.—Dr. Auerbach, in *Deutsche Med. Woch.*, has for some time treated pruritus by this substance, and with the greatest success. After the first rubbing in to the part, great relief is obtained. Cure results in a few days.

NOTES ON QUININE.—The consumption of quinine for the past year is estimated at 220,000 pounds, valued at \$9,600,000. The United States takes over 88,000 pounds, nearly two-thirds being home manufacture.

BOOK NOTICES.

A TREATISE ON THE SCIENCE AND PRACTICE OF MIDWIFERY. By W. S. Playfair, M. D., F. R. C. P., Professor of Obstetric Medicine in King's College, etc. Third American Edition, revised and corrected by the author. With Notes and Additions by Robert P. Harris, M. D. With two plates and one hundred and eighty-three illustrations. 8vo. Pp. 643. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co. Price, \$5.00.

This work is one of the very best works on midwifery for medical students or practitioners, either in the English language or any other language. If inquired of by a medical student what work on obstetrics we would recommend for him, as *par excellence*, we would undoubtedly advise him to choose Playfair's. It is of convenient size, but what is of chief importance, its treatment of the various subjects are concise and plain. While the discussions and descriptions are sufficiently elaborate to render a very intelligent idea of them, yet all details not necessary for a full understanding of the subject are omitted. In referring to it, it is not necessary to hunt through many pages to find the desired information, in consequence of the prolixity of the writer, but the conciseness of discussion and absence of verbiage enables one to come at once to what he wants.

The profession of this country have exhibited their appreciation of the merits of the work in that this third edition has been called for in less than a year from the time the second edition was issued. This edition has been carefully revised for this country by the author himself, at the solicitation of the publisher. In those matters in which American opinion and practice differ from England, the editor, Dr. Harris, has concisely but plainly set forth the former. The statistics of the United Kingdom have been compiled especially for this work, while those of the United States will be found the most complete that have hitherto been collected. The entire work has been subjected to a careful revision, and has had introduced into it a notice of the more important recent additions to obstetric science.

The publisher, Mr. Henry C. Lea, has gotten up the work in handsome style as regards type, paper and bind-

ing. The first is clear, distinct, and easily read, while the paper is the very finest quality of double-sized and calendered.

THE STUDENT'S GUIDE TO DISEASES OF THE EYE. By Edward Nettleship, F. R. C. S., Ophthalmic Surgeon to St. Thomas's Hospital. With 89 illustrations. 12mo. Pp. 369. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co. Price, \$2.00.

This work will be appreciated by students who are in attendance upon college medical lectures and clinical lectures of hospitals. The object of it, in fact, is to supply students with information they most need while engaged in public instruction. It is *multum in parvo*, containing all the leading points to be remembered in the pathology, description and treatment of diseases of the eye. It will be found especially valuable in preparing for examinations. Practitioners will find it convenient as a work of reference, when they wish to refresh their memories in respect to the features of some affection.

ANALYSIS OF THE URINE, WITH SPECIAL REFERENCE TO THE DISEASES OF THE GENITO URINARY ORGANS. By K. B. Hoffman, Professor in the University of Gratz, and R. Ultzmann, Docent in the University of Vienna. Translated by T. Barton Brune, A. M., M. D., and H. Holbrook Curtis, Ph. B. 8vo. Pp. 269. New York: D. Appleton & Co. Cincinnati: R. Clarke & Co. Price, \$2.00.

The translators of this little work explain as a reason of their undertaking its translation, that they wished to supply a need which has long been felt by American students and physicians—that they do not know of a single work in the English language where, in a concise form, so many valuable suggestions and practical hints are offered, both as regards analysis and diagnosis.

The work is undoubtedly a very superior one of the kind, and we have no hesitation in cordially recommending it for the purpose for which it has been prepared. Besides an introduction, it contains eight chapters. Chapter I. treats of Histology of the Urinary Organs; chap. II., The Excretion of the Urine; chap. III., The Urine; chap. IV., Quantitative Determination of a Few of the Constituents of the Urine; chap. V., Reagents and Appa-

ratus for the Approximative Determination of the Urine Constituents; chap. VI., Key to the Approximative Analysis of the Urine; chap. VII., General Diagnosis; chap. VIII., Diagnosis of the Diseases of the Urinary Apparatus. In the back of the book are a number of very beautiful colored plates.

The third chapter is especially full and complete in its details, giving a general description of the urine and its physical characteristics, and then treating of its chemical composition, sediment, etc. In this chapter the mode of testing for the various constituents is fully explained.

At a future time we may make some extracts from it in our "Microscopical Department."

MINOR GYNECOLOGICAL OPERATIONS AND APPLIANCES. For the Use of Students. By J. Halliday Croom, M. B., M. R. C. P. E., F. R. C. S. E., Lecturer on Midwifery and the Diseases of Women at the School of Medicine, etc. 12mo. Pp. 106. Edinburgh: E. & D. Livingstone, 57 South Bridge. Price, \$1.75.

This little work will be found especially useful to medical students and young practitioners. It gives very full descriptions of all the minor operations of gynecology and indications for them; also an account of the treatment of many of the minor lesions of the female generative organs. It will be found a most convenient little book for reference, and should be in the hands of every student and young physician.

A MANUAL OF THE PRACTICE OF SURGERY. By W. Fairlie Clarke, M. D. (Oxon.), F. R. C. S.; late Assistant Surgeon to Charing Cross Hospital. Third edition, revised and enlarged, and illustrated by 190 engravings on wood. 16mo. Pp. 443. New York: G. P. Putnam's Sons. Price, \$2.00.

We bespeak for this little work on surgery an immense popularity with students. It is just such a work that has been for a long time needed, and just such a one that we have been wishing for a long time to be issued, and been surprised that it has not been prepared. Of a size that it can be carried in the pocket (the size of the page being only 16mo.), yet all the *essentials* of surgery are mentioned, and sufficiently full, too, to impart a very correct idea. We feel assured that the student having it,

especially one in attendance upon lectures, will always be carrying it with him, that he may consult it and refresh his mind whenever there is a convenient moment; for, whether walking or riding, as in a street-car on the way to hospital or college, or sitting down awhile anywhere for a moment, it can be drawn forth and its pages glanced over. It is not to be compared to many of the little and almost worthless anatomical remembrances, for it contains satisfactory instruction in all the departments of surgery. It can be referred to both by student and practitioner, as to description, pathology, diagnosis and treatment.

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- A SYSTEM OF MEDICINE. Edited by J. Russell Reynolds, M. D., F. R. S. With Numerous Additions and Illustrations. By Henry Hartshorne, A. M., M. D., formerly Professor of Practice of Medicine in Medical Department of Pennsylvania College, etc. In three volumes. Volume II., Diseases of the Respiratory and Circulatory System. 8vo. Pp. 935. Philadelphia: Henry C. Lea.

In the last number of the *MEDICAL NEWS*—December—was published a notice of the first volume of this truly magnificent work. We now have the pleasure of announcing the issuing of the second volume.

We will here repeat what we said in noticing the first volume: that "Reynolds' System of Medicine," the product of the best minds in the medical profession, must take the position of being the leading work on the principles and practice of medicine in the English language. As stated by the editor, Dr. Henry Hartshorne, it presents within as small a compass as is consistent with its practical utility, such an account of all that constitutes both the natural history of disease and the science of pathology as shall be of service in either preventing the occurrence, or detecting the presence, and guiding the treatment, of special forms of illness. To those physicians who desire a very complete work, one that treats minutely of all forms of disease—history, pathology and treatment—we very cordially recommend it. To the American and English physician we think it will be found preferable to "Ziemssen's Cyclopaedia," as the writers of it better understand the wants of such, while the price of it is very much less.

The contributors to the present volume are Drs. Francis E. Anstie, Henry O. Bastian, J. W. Begbie, H. Beigel, J. Hughes Bennett, J. Syer Bristowe, O. H. Fagge, Wilson Fox, W. T. Gairdner, W. R. Gowers, H. Hartsborne, W. M. Grailly Hewitt, Sir Wm. Jenner, Morell Mackenzie, W. Murray, T. B. Peacock, R. D. Powell, J. R. Reynolds, F. T. Roberts, Hyde Salter, Francis Sibson and Wm. Squire, Esq.

The work, we believe, is to be sold by subscription. The price, per volume, is \$5 in cloth binding, and \$6 in leather. The third and last volume will be issued shortly.

THE STRUCTURE AND OTHER CHARACTERISTICS OF COLORED BLOOD CORPUSCLES. Investigations laid before the New York Academy of Sciences, December 16, 1878, and before the New York Academy of Medicine, March, 1879. By Louis Elsberg. New York: G. P. Putnam's Sons. Cincinnati: R. Clarke & Co. Price, 25 cents.

This is an octavo pamphlet of forty-nine pages, and contains much information highly interesting to the physiologist. The discovery of red corpuscles in the blood was one of the first results of microscopical study over 200 years ago. Since that time no other constituent of the body has been more frequently examined. Nevertheless, their structure has not heretofore been ascertained. Our author attempts to settle the matter, and an account of his investigations will be found of interest—the manner of carrying them are especially useful and interesting.

EDITORIAL.

NEW VOLUME.—The present number begins a new volume of the MEDICAL NEWS—the *thirteenth volume*. From the beginning (January 1st, 1868) to the present time, not a number has failed to be issued. It may now be fairly regarded as among the old journals. How very many journals in that time have sprung up, and after leading a feeble existence for two or three or more years, have passed away. Not a few of them have been of very considerable merit, but for some cause or other they failed to obtain enough patronage to live.

We are happy to say that the NEWS continues to main-

tain its prosperity. The number of its subscribers increase from month to month, and daily do we receive laudatory letters and expressions of good will. We are under no necessity, as some of our confreres seem to be, to indulge in spread-eagle boasting to impress any one, or to make statements that are not true. The NEWS retains its old friends and secures new ones without any such assistance. The progress it has made has been by its own merits. It has never been under the necessity of buying up old subscription lists of defunct journals. Its wide-spread circulation, extending from the cities of the Atlantic to those of the Pacific, and on beyond to Australia, is preserved by its own inherent power, and not by any extraneous aid.

PRISON REFORM AND CHILD SAVING.—That excellent old gentleman and distinguished philanthropist, Rev. Dr. E. C. Wines, died recently, very suddenly, in New York. Just previous to his decease, he had put in type a book, giving the result of his eighteen years' research and travels, entitled "The State of Prisons and of Child Saving Institutions in the Civilized World." We have not had the pleasure of seeing the book, but we have heard some accounts of it, and came across, a few days ago, some extracts from it which have interested us very much. All intelligent persons know that Dr. Wines has made a specialty of the study of criminals, and of institutions for their punishment and for their reform; also, of poor-houses, and of the various means employed for bringing up vicious children, and of educating poor and working children. A number of years ago, Dr. Wines was in Cincinnati in attendance upon a convention of superintendents and wardens of penitentiaries, jails, reformatories, etc., and while here, had presented to him a gold-headed cane.

We are informed that there are three systems of prison labor in the United States—1st, that in which the convict labor is managed by the prison officers themselves; 2d, that in which it is let out to contractors for so much per day to each man; 3d, the lease system, in which the work of the whole prison population is leased a certain number of years to individuals or firms, the lessee having, during that time, entire control of the food, clothing, medical attendance, etc., of the convicts. The latter is the system most in vogue in many of the Southern States, but

Dr. Wines considers the mode a bad one—the worst of all. However, he has this to say in regard to it:

“At the same time, I am free to confess that I would not favor the abolishment of the contract system so long as the present policy is continued as regards the uncertain tenure of office, and for the following reasons: 1. The successful management of the industries of the prison requires experience and business tact—qualities that can be acquired only by a long, practical familiarity with such management. 2. It would not be wise to commit the industries of a prison to its head so long as he is not only liable but well-nigh sure to be displaced on every transfer of power from one political party to the other. 3. Considering the extent and variety of the industries carried on in most of our State prisons and the frequent change of officers therein, the result of which is, that inexperienced persons are for the most part at their head, it would be unsafe to change the system of labor while the system of government remains what it is at present. 4. Consequently, in order to a safe and successful change of the prison-labor system from outside contract to State management, it will be an essential condition precedent that political control be eliminated from the government of our State prisons, and that their administration be placed in the hands of honest and capable men, and kept there.”

Dr. Wines visited the notorious Kentucky penitentiary, imprisonment in which is almost certain death to the convict, unless it be that his term is a short one, or he is humanely pardoned by the Governor, and he considers that the lease system is the prime cause of the evils from which it suffers. Those who lease the labor of convicts, following the natural, selfish instincts of human nature, endeavor to make the largest profit possible out of it. The health of convicts, therefore, is but very little looked after. Little attention is given to diet, to the personal cleanliness of the prisoners, cleanliness of the cells, and of the whole prison, proper ventilation, and the many other things that pertain to thorough hygiene. Bad food, consequently, is served; filth is permitted to generate throughout the prison, and around it outside, begetting a most fatal miasm, that spreads everywhere. So great has been the mortality at times, that the Governor has felt called upon to use his pardoning power to a degree that

under other circumstances would be regarded as most reckless.

Politics are the bane of eleemosynary institutions in this country. They are ranked among the "spoils" of party, so that as soon as one of the political parties obtain the control, all the adherents of the opposing party are put out of their places—a superintendent of a lunatic asylum, or a warden of a State prison, no difference how qualified he may have exhibited himself for his position, is displaced, that his place may be given to some adherent of the prevailing party as a reward for political services. Party services, therefore, too often are the merits sought in a candidate, and not intelligence, scientific acquirements in the case of a physician, business tact, and high moral integrity. The consequence is, that frequent changes in management is the rule. No system can be instituted and carried out. The appointee is scarcely settled down in place and ready for work—if, by chance, he should be the right man in the right place, conscientiously impressed with the feeling that he has most important duties to discharge—than he has to vacate, that some one may be rewarded whose merit consists in having performed a large amount of work for his party—that, too, oftentimes of a very corrupt character.

The Rev. Doctor shows in his work that when the labor of convicts has been managed by the prison authorities, and those constituting them have been retained in their positions during good behavior, such prisons in some instances realize a surplus over expenses; in others, meet their expenses, while some have fallen but a little short of meeting all expenditures, including salaries of officers. These variations are due to the kind of work given, in different institutions, to convicts to do. In some prisons only a single kind of mechanical work is performed.

The objects of imprisonment as set forth by Dr. Wines, we believe, are, besides punishment, and protection of society against the prisoner, while confined, his reformation. In fact, in these humanitarian times, when it is the fashion to take high grounds in motives of every kind, although conduct may not experience the same elevation, punitive purposes in imprisonment are denounced and the object of it made altogether the reformation of the criminal. But to what extent reformation may be brought about, if to any extent it may be realized at all in an individual un-

doubtedly criminally disposed, we think has not been much considered. The study of vice and crime proves, beyond a doubt, that they have their source in the constitution; and before we can make a criminal a man of integrity, the taint of them must be removed from the system.

In the *Quarterly Journal of Psychology*, published a few years ago in New York, in an article, entitled "Homes for the Friendless," we made the following remarks: "It must be evident to every one having a knowledge of physiology, that to effect any permanent change in the line of conduct of an individual, or class of individuals, which is involved in all efforts at moral reform, a change must be brought about in the character of the emotions, which must necessarily be preceded by a change in the structure of the nervous system. The first follows the second, and the second the last mentioned, as truly in the order of cause and effect as light follows upon the appearance of the unclouded sun."

But we have drawn out our article to a much greater length than we had intended. But as the Rev. Dr. Wines' book affords us a very good text for remarks upon the subject of vice and crime, which is a subject, and a highly interesting one, too, for the contemplation of the physician, we will take it up again in a future number of our journal—probably quite soon.

GOOD MANNERS.—Next to the moral attributes and learning, which a physician should cultivate, come good manners. However skillful a physician may be in his profession, he will certainly not prove a success, especially if he has competition, unless he is possessed of some of the graces of culture and good breeding. The highly cultivated Lord Chesterfield, in corresponding with his son over a hundred years ago, again and again, in his letters, urged him to acquire good manners, not unfrequently stating that they would do more in advancing a professional man in a community than knowledge in his profession. In a letter written May 27, 1748, he says: "Manners, though they may be the least of real merit, are very far from being useless in its composition; they adorn, and give an additional force and luster to both virtue and knowledge. They prepare and smooth the way for the progress of both; and are, I fear, with the bulk of mankind, more engaging than either." In a subsequent letter

to his son, of the same year, he writes: "Next to manners are exterior graces of person and address; which adorn manners, as manners adorn knowledge. To say that they please, engage and charm, as they most indisputably do, is saying, that one should do everything possible to acquire them."

We are led to these remarks by frequently observing some young physicians, of very respectable attainments in knowledge, who seem to have become impressed with the belief that coarseness of manners and bearlike behavior are admired in a medical man by the non-professional, and tend to give confidence in him. We have known such to refer, in the way of proof, to a somewhat noted practitioner of a past time, who was of exceedingly rude manners in the sickroom, and would even indulge in profane language. It may be that there has been a time when blackguardism was tolerated to secure the services of some one of imagined extraordinary skill, and may be there has been a blackguard of more than average scientific attainments in his profession; but that doctor will find that he has made a serious blunder who supposes that refined, cultivated people, at all admire rudeness in a physician. Ruffians may be pleased with it, but no other class. Even the ignorant and uncultivated are favorably impressed by a dignified deportment and polite manners—it is only such that can give confidence. A medical man should be very sure of being possessed of knowledge and professional skill far beyond any near competitor before he attempts to act the blackguard in a sickroom, and expect to be tolerated. It can only be when a person has, or is supposed to have, attainments beyond what others of the profession have, that his rude conduct will be overlooked, and even then all cultivated people pity him for his rudeness and regard him as suffering a misfortune in consequence of it.

DEATH FROM STARVATION.—A lady of this city, between sixty and seventy years of age, recently died from voluntary starvation. The case has excited very considerable local interest; and we will record what facts we have been able to learn in regard to it. During the course of the suicide the medical attendant called in was an eclectic doctor, who visited the individual daily, but it seems he made no interference in the way of preventing the

self-destruction, other than, maybe, to employ persuasion, which had no effect. One would naturally expect that in a case like this, in which the determination to abstain wholly from food was the result of mental aberration, that forcible means would have been employed to inject food into the body. It is not unusual by any means for the insane to refuse food for days; but, in such instances, it is the custom in our lunatic asylums, to pass a tube into the stomach, and then, by means of a pump or suitable syringe, to inject nourishing liquid food, as milk, or milk with eggs beaten up in it, etc. Generally the operation has to be performed but a few times when the patient takes food voluntarily, to escape from the disagreeableness of having it forced into him. In some cases, in which there are reasons to prefer it, food may be thrown into the rectum instead of the stomach. It is a well-known fact that life may be sustained a very long time when the body is nourished through the intestinal mucous membrane exclusively. Injections of aliment into the rectum is to be preferred when there are reasons to suspect organic lesions of the stomach. But, in the case of insanity, the complaint of violent pain in the stomach by the patient after food has been injected, is by no means evidence of any lesion in that organ. We have known a lunatic to become possessed of the hallucination that he had a fracture of a bone of one of his limbs, as one of his lower limbs, and when placed on his feet, after having been allowed to lie in bed a number of days, until confinement would begin to affect his health, exhibit by his screams and groans the most intense pain. But supported by a person on each side of him, and made to walk, after making a few turns up and down the hall, his hallucination of having a fractured leg would vanish, and he would continue to walk uncompelled and unaided.

From the time the lady we are speaking of ceased to take food, until she died, was *four weeks and one day*. During this time, by accident, it is stated, she swallowed two beans, a piece of potato the size of a boy's marble, and a small teaspoonful of egg. These ingesta seemed to produce the most excruciating pain. Nor during the time did she take any water or other fluid, only as we shall presently describe.

The history of the case, as we learn, is as follows: The patient had suffered greatly from chronic dyspepsia for

quite a number of years. For a year until last September her health had been considerably better, but, contracting a severe cold, congestion of the lungs was induced. Upon recovering from this trouble, the dyspepsia returned in its worst form, causing the poor woman the greatest suffering, and leading to a dangerous spasm. It was not supposed she could recover, and her relations were summoned, but the convulsions at length ceased, leaving the hallucination that her stomach was gone—"had rotted away." From that time she would neither eat nor drink, for the reason, as she said, there was no place for the food to go to. No argument or persuasion on the part of her friends had any effect in changing her belief or inducing her to take nourishment. She absolutely refused, from the information we are able to gather, which we believe to be correct, to take food or drink, and continued thus to refuse until she died.

Until a week before her decease, a spoon was dipped two or three times a day in apple jelly, dissolved in water, of the consistency of port wine, and, after being held over the tumbler until all the liquid that would have dropped off, was placed in her mouth. But during the last week even that was refused. Once in that time a little snow was placed in her mouth, which she allowed to melt, but refused to swallow. This, as is stated, was absolutely her nearest approximation to taking any liquids.

Her strength held out in a wonderful manner. Though much emaciated, she did not become helpless until within a few days of her death, and even as late as the day before she drew her lower limbs up in bed, moved her arms. She did not, until shortly before her decease, lose the sense of taste or desire for food. She would suck the teaspoon which had been dipped in the solution mentioned with greediness, and, at times, her craving for food was so strong as to cause the greatest suffering.

An autopsy of the body was made twenty hours after death, an account of which was published in the newspapers. The gentlemen conducting it were Drs. Freeman, Scudder and Maley. The two first are eclectic doctors, the latter a regular physician. Dr. Scudder is of the Eclectic College of this city, and is esteemed as possessing considerable acquirements. It is stated that the stomach exhibited no materially diseased condition. Its caliber was very much

lessened from muscular contraction—its breadth not being much greater than that of the colon. There was slight congestion of the mucous membrane. The orifices were normal. Rigor mortis was well marked. During health deceased weighed 160 pounds, after death 60. Measurement of chest, 24 inches; of abdomen, 22 inches; thigh, $7\frac{1}{2}$ inches. The whole body was greatly wasted. There was some fecal matter in the transverse colon. The entire alimentary canal from the stomach to termination presented a healthy appearance. The omentum also [was healthy. The kidneys were normal. A small amount of urine was found in the bladder. The lungs, liver, spleen and uterus all presented a normal appearance. The heart was small and contained about half an ounce of dark fluid blood—the ventricles being contracted.

This case of self-inflicted starvation presents a number of very remarkable features—not the least of which is the very long time the party survived without food or drink. Another is the wonderful perseverance in her resolution to abstain from food, although suffering agony in her hunger—food at all times being within her reach, and urged by kind friends to take it.

ALUM AND IRON MASS.—On second page of cover of the **MEDICAL NEWS** will be noticed the advertisement of this remedy. In an article printed in the **NEWS** some months ago very favorable mention was made of it. It is composed of the combined medicinal substances of the water of the springs of Bedford, Virginia, obtained by very careful evaporation. In its use are obtained all the advantages in drinking the waters of the spring; and it is admitted that in the combinations of minerals by nature, oftentimes remedial effects are produced that do not follow upon any artificial combination. The mass is highly spoken of by gentlemen high in the profession as efficient in throat, skin, stomach, blood, and malarial affections. The *Virginia Medical Monthly*, in speaking of it, says, "None have a wider range of usefulness." Professor Jackson speaks flatteringly of it in the treatment of dyspepsia and chronic diarrhea; others, in hemorrhagic diseases and uterine affections. We can easily understand that it would be an efficient medicine in all cases needing a tonic and alterative remedy. Besides, it is astringent and diuretic, making it efficacious in kidney affections.

INFLUENCE OF DIGESTIVE ORGANS ON THE MIND.—The work of Conolly, the distinguished English alienist, is not in the libraries of as many physicians as it should be. A close observer and exact thinker, his book upon insanity is highly interesting and instructive. Although more than half a century has elapsed since he wrote, since which time physiology and psychology have made very great progress, yet, his keen perceptive powers enabled him to recognize many facts that many would be inclined to suppose had been only recently disclosed by the advanced condition of medicine.

Conolly fully understood how the various states of the digestive organs affect the mind, both as regards the intellectual organs and the feelings. On page 248 of his work referred to, he says: "The general dissatisfaction which so many complain of at some time or other, the state in which nothing in the prospects of the world gives pleasure or affords hope, is often but a mere result of this sort of sympathy of the brain with temporary conditions of the intestinal canal; and when the disordered state which calls up that particular sympathy is corrected, the melancholy is gone. It is mortifying to human pride to allow that good humor may be wholly put to flight by a temporary fit of indigestion; and that the power of attention may be lessened, the strength of the memory decreased, and all the luster of the imagination obscured, by a neglected state of the bowels; but the fact is too familiar to be disavowed; and even the restoration and invigoration of those powers which approach nearest what is divine, are certainly often best effected by such common means as are directed to remove the disordered states of the stomach and of the intestinal canal."

It is, indeed, rather humiliating that many of our states of mind are brought about by a disordered condition of the stomach and intestinal canal; that the conscience is more sensitive when the bowels are costive than when they are not; that the good man and woman is often relieved of a sense of unworthiness and of great apprehensions in consequence of shortcomings by the action of a dose of castor oil. An injection or an infusion of senna and salts will not unfrequently do more in the way of calming the perturbed conscience than the most eloquent discourse of a minister. Not that there is not flagrant conduct that of itself may smite one's feelings and tor-

ture the mind; but many times the melancholy mood from presumed unworthiness, and the pleasurable state from conscious rectitude, represent the bodily condition. When the great enemy of man, death, is about to take him from the world, then do we oftentimes perceive, as he is about departing, how the emotive faculties are affected by the bodily state. As the circulation in the brain grows feeble, and the blood besides is changed in its quality, we find the religious man rejoicing in the prospects of his dissolution and the glorious immortality before him, while the irreligious or very depraved one is filled with apprehension as to his future. The former now and then sees hovering about his couch angelic beings, and hears music of inexpressible sweetness, while the latter is surrounded by frightful fiends. We do not wish, by any means, to cast doubts upon the reality of the happiness of the truly pious in the act of passing out of the world, or insinuate that the testimony of the witness within himself is not competent testimony; for these conditions in the dying may be the purposes of the Almighty in dealing with men. Says Dr. Conolly: "If we had not hourly proofs of our entire dependence on a Governing Power, it might be worth while to remark on the possibility, shown to us in the curious instances where the delusion is complete, of our being so variously affected by the same external circumstances as to make our perfect happiness, if it was designed that it should be perfect here, quite consistent with all the accidents of terrestrial life. No extravagance of imagination is required to admit that the slightest possible change of the mode in which our organization is affected by external agents, might create that happier state to which men look forward amidst the trials of this, but which will probably consist of no less a change of objects than of modes of perceiving them."

There is certainly no subject more interesting than that of the influence of the body upon the mind; and of the parts of the body by which the mind—embracing the intellect and feelings—is the most affected, the digestive organs—the stomach, liver and intestinal canal—standing at the head. As the condition of these is modified by any cause, so the state of the mental undergo change.

NOTICE.—It is not often that we have reason to complain of the conduct of subscribers, unless of slowness, occasionally, in making remittances; but now and then we come across a slippery customer, who, after subscribing for the journal a year, will let us send it to him for another year, and then decline paying, on the ground that he did not order it for the second year. We desire to inform such, that, it has been decided again and again by courts, an individual is a subscriber until he pays up all dues and orders a discontinuance. A publisher may continue to send a publication, although he is told to discontinue, until all dues are paid, and recover for same. It is *prima facie* evidence of intention of fraud to permit a journal to be sent to one's address with the design of not paying for it.

SANITARY CONVENTION AT GRAND RAPIDS.—*Times and Places*.—The second convention will be held in Grand Rapids, in the Circuit-court rooms, on the 17th and 18th of February, 1880.

Sessions.—The convention will hold one session the first day, at 7 o'clock, P. M., and three sessions the second day, at 10 A. M., 2 and 7 P. M.

During each session of these conventions there will be one or more addresses or papers on some subject pertaining to public health, and of general interest; each paper to be followed by a discussion of the subject.

Officers of the Conventions.—The conventions will be presided over by a President and six Vice-Presidents; all being prominent citizens or eminent sanitarians; and there will be for each convention a resident secretary, to-wit: Rev. Geo. D. Gillespie, President; Hon. Alonzo Sessions, of Ionia, Lieut. Governor, 1st Vice-President; Hon. Henry H. Holt, of Muskegon, 2nd Vice-President; Dr. E. H. Van Deusen, of Kalamazoo, 3rd Vice-President; Mrs. S. L. Fuller, of Grand Rapids, 4th Vice-President; Rev. J. Morgan Smith, of Grand Rapids, 5th Vice-President; Dr. J. Andrews, of Paw Paw, 6th Vice-President; Dr. Arthur Hazlewood, of Grand Rapids, Secretary.

Exhibition of Sanitary Apparatus.—Manufacturers of all kinds of sanitary apparatus or appliances are to be invited to send specimens of their manufactures for exhibition at these conventions in accordance with the following regulations, namely:

(a) The Board of Health reserves the right to decline any article not deemed suitable.

(b) A full description of each article proposed to be exhibited must be forwarded to the Secretary of the convention with application for space.

(c) At these conventions there will be no charge to exhibitors for entrance fee or for wall or floor space.

(d) Exhibitors will pay all expenses of transportation, storage, placing and removal of goods, and must themselves be responsible for any breakage or damage to their articles.

(e) Every article exhibited, and every model, drawing or photograph, must bear a descriptive label, giving a detailed statement respecting its construction, use, and the price at which it can be furnished, and the name and address of the agent and the place of sale.

(f) Exhibitors may employ persons to explain their exhibits, and properly to solicit orders.

(g) The position in the hall, of articles entered by each exhibitor, will be determined by the Secretary of the convention.

(h) Exhibits will be received by the Secretary of the second convention from January 16th, 1880, to February 16th, 1880, and will be placed in the halls before the opening sessions of the conventions.

Competent judges will be invited thoroughly to examine the various articles on exhibition, and certificates of merit will be awarded to such as are deemed worthy of it.

The records of the proceedings of these conventions, together with the various addresses and papers read, and a catalogue of the articles exhibited, with the awards of the judges, will be published in the annual report of the Secretary of the State Board of Health. Reprints from that of the proceedings of these conventions may contain several pages of advertisements for which there shall be charged the following rates, namely: ten dollars per page, or six dollars per half page; the prepayment of which sums shall entitle the advertiser to ten copies of the reprint, and to receive other copies at cost.

The admission to all the sessions of these conventions shall be free.

Programmes for all the sessions of each convention will be printed and issued at an early day, with the subjects, and the names of the speakers or writers.

Invitations to be present at these conventions will be sent in the name of the State Board of Health to many prominent citizens and eminent sanitarians from abroad.

Subjects to be Presented.—1. Opening address. 2. Health of the young, as affected by schools and school architecture. 3. Conditions of inflammability, with experiments. 4. General sanitation: its importance to the public welfare, and a plea for better methods. 5. The relation of the clergy to sanitary reform. 6. The duty of the Christian in regard to the laws of health. 7. Drainage in its relation to health. 8. Physical development of children. 9. Volunteer papers.

The Secretary will be pleased to give any further information.

ARTHUR HAZLEWOOD, M. D., 92 Monroe Street,
Secretary, Grand Rapids, Mich.

A BARGAIN IN GALVANIC BATTERIES.—We have received several new, excellent galvanic batteries from the Galvano Faradic Company, which can be had at less than the manufacturers' price. The instruments of this company are the best in the market for medical purposes. They give both the primary and secondary currents—the change from one to the other is most conveniently made. They are in solid black walnut cases. Address MEDICAL NEWS.

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ORIGINAL CONTRIBUTIONS.

On Cysticercus Cellulosæ.

BY C. S. TURNBULL, M. D., OF PHILADELPHIA.

THROUGH the courtesy of our friend Dr. J. E. Garretson, we are enabled to present the notes of an interesting case of cysticercus within the human eye, concerning which rare lesion a few remarks we trust will be pertinent.

"History of case. Patient, J. J. Andrews, of Philadelphia, aged fifty-five. Temperament, sanguine; health, vigorous; occupation, merchant. When a boy, the patient was struck upon the eye (in which was found the hydatid) by a basket in the hands of a playmate. As an immediate result of this accident great inflammation ensued in the injured organ, which, after a lengthy resistance to the means of cure employed, finally yielded, becoming as comfortable as before the blow. In early manhood the lens of this eye began to grow cataractous, the opacity progressing rapidly to complete monocular blindness.

Twenty years now passed, the patient finding satisfaction in an increased sight residing in the well eye. To use his own expression, 'this well eye had taken on itself the office of the sick one.'

Five years and a half ago another change occurred. Without explainable cause the cataractous eye became the seat of paroxysmal pains, recurring with a frequency and regularity suggestive of malarial influence. A peculiarity of diagnostic signification in connection with these pains lay in a gradually increasing intensity characterizing them. The cause, whatever it might prove to be, was

evidently of a growing nature, and as a culmination of this intense pain the patient became conscious of blows struck on the inside of the eye, the sensation being described as 'hammer strokes.'

A marked feature associated with the painful paroxysms was vascular engorgement. In ten minutes from the striking of a blow the conjunctiva would congest to a condition of chemosis. Lachrymation was unusually profuse. The paroxysms (and the pain was described as excruciating) were about bi-weekly. The palpebral conjunctiva was somewhat granular.

Search after a Diagnosis.—The granulated lids, a bad tooth, and the periodicity characterizing the attacks were features attracting attention. As negatives, there was absence of all external glaucomatous expression. No history of specific or other peculiar disease. No neuralgic tendencies.

Treatment was commenced with reference to the derangements seen to exist. The granulated lids were given attention after the usual manner, a zinc and alum solution being combined. The affected tooth was extracted, while its alveolus, which was found carious, was scraped by means of a burr revolved by the surgical engine. Quinine was administered in consideration of the periodicity.

The treatment adopted meeting with no satisfactory result, thus exhibiting fallacy in inference, the search after cause was renewed. In pursuit of this search attempt was made by means of atropia to produce such dilatation of the pupil as should expose the whole circumference of the crystalline lens; this dilatation was found exceedingly difficult to secure, the iris being almost entirely wanting in response.

For three days a strong solution of atropia was used; on the third the iris had fully dilated. The patient, thus presenting, was subjected to an ophthalmoscopic examination; the illumination revealing the fundus of a sac existing in the posterior chamber. The cyst, or whatever it might prove to be, was evidently united to the ciliary margin. The sight obtained at this view was too indistinct to suggest thought of a cysticercus. The atropia being continued, a succeeding visit, made on the following day, revealed the secret of the diagnosis.

A balloon-shaped body was now plainly to be seen, in

the act, evidently, of detaching itself from a part to which it had been adherent. The next day the detachment was complete, the parasite floating free in the aqueous humor.

To illustrate the movement of the animal, reference may be made to a balloon. A cysticercus is in form a miniature balloon; the head of the parasite, which is the dependent part, bears close likeness, when extended, to the basket.

To imagine a floating and swaying balloon suddenly drawing into its interior, and as suddenly throwing out its basket, is to secure the fullest notion of the action of the hydatid.

For a whole week the act of floating was continued in the posterior chamber. At one time the animal would be in full view; at another he would have retired within his sac, and be lost to view behind the iris. At no time did the parasite come through the pupil into the anterior chamber.

On the ninth day of observation, the head of the cysticercus was found fixed to the center of the capsule of the crystalline lens, into which it seemed to be trying to force a way. This attachment continued unchanged until the hour of operation, three days later.

A diagnosis established, removal of the parasite was effected by the performance of Graefæ's method for extraction of the lens.

The parasite lived for some time, after being placed in a warm saline solution. Microscopically the animal presented its characteristic appearances, and subsequently, microscopically, the suckers and hooklets were plainly discernible."

The description quoted has been copied verbatim from Dr. Garretson's account, because of its peculiar clinical value, describing as it does most vividly "the search after a diagnosis," and as giving also the "fullest notion of the actions of the hydatid."

As the subject under consideration is one of unusual interest, we have thought it best to include a brief and concise account of the method of development of the cysticercus cellulosæ or larval tapeworm from the eggs of the tænia solium or parent tapeworm. Its novel course of life and travel, *i. e.*, from one individual to another, and unique method of propagation must be thoroughly

understood before the significance of this peculiar lesion can be appreciated.

The entozoon under consideration is the larval form of what is known as the *tænia solium* or tapeworm.

It was known in the very earliest times, and was described by Plater* in 1602. Goze† first recognized its animal nature in 1784, Werner‡ found it in man in 1786, and Kuchenmeister was the first who showed it to be the larval condition of the *tænia solium*.

The *cysticercus cellulosæ* is, as its name implies, a bag-tailed entozoon of the cellular tissue. It has its origin in the inter-muscular connective tissue of the "measly pig," the uncooked meat of which contains the embryos. People become measly, then, not directly from eating "measly pork," as we even now sometimes read, but by the circuitous mode of the tapeworm developing in the intestine.

The person infected may derive the mature eggs of the *tænia solium* from his own intestine or from the tapeworm of some other individual. The former—self-infection—may occur in two ways: mature eggs, either free or accompanying the detached and expelled joints of a tapeworm, may be taken into the mouth and swallowed, or mature egg containing segments may, by vomiting, be regurgitated into the stomach. In the second way, by food or through the use of cooking utensils.

The ways and means by which tapeworms are acquired may, in a general way, be deduced from a consideration of their development. The habit, or rather the bad habit, says Ziemssen,|| of using meat imperfectly cooked or quite raw, which is becoming every day more common, is extremely favorable to the propagation of tapeworms or the development of their embryos (*cysticercus cellulosæ*).

Butchers, bakers and cooks who harbor tapeworms are, in consequence of their occupations, especially likely, from lack of cleanliness, to infect the food supplied or prepared by them, and in this way bring about the measly infection.|| Every person affected with tapeworm, not

*Ziemssen, vol. vii. p. 686.

†Göze, "Neuste entdeckung, das die Finnen im Schweinefleisch keine drusen krankheit, sondern Blasenwürmer, sind." Halle, 1784.

‡Werner, Verm. intest. brev. expositions cont. II., Lips. 1786.

||Ziemssen, vol. iii.

only carries with him danger, but is constantly threatening the health of his neighbors.

Concerning prophylaxis we would here reiterate the advice Ziemssen* gives upon this important subject. "With regard to swine, the idea that they thrive better amid filth must be looked upon as a prejudice that is no longer entertained by skilled agriculturists. The habit that still prevails in some farm-yards of intentionally giving the animals access to the excrement of human beings, should at once be put a stop to as thoroughly worthy of reprobation, and pigs should be so inclosed as to be unable to wallow about in the dung heap and other filth. Though the ruminants have no such filthy propensities, still they, too, should be shut out from access to human excrement. With this object, the barbarous custom of defecating in every place promiscuously, should be put down with a high hand."

Tænia solium, or tapeworm, is found in the small intestines of man. The head is usually fastened to the mucous membrane of the intestine in its upper third. Up to the present time tapeworm has only been found in man, and seems peculiar to him. It is very frequent in Europe and America. In Europe, the middle of Germany is remarkable for being the land where it is most widely diffused.

The tapeworm must be looked upon as a colony of animals having an alternation of generation. The so-called head is the larva-like nurse; the segments of the worm—the proglottides—are the animals with sexual organs. From the head (scolex), without any mingling of the sexes, are produced these segments by a process of budding. These segments (animals) are hermaphroditic and generate eggs, in which a six-hooked embryo becomes developed. If these segments find entry into the stomach of a suitable animal, their envelopes becomes softened or undone, and the eggs are set free. Once hatched, the embryos are set free, and boring their way through the walls of the stomach, disseminate themselves throughout an animal's body. In the course of its boring, an embryo now and then penetrates the walls of a blood-vessel, and is whisked away to some remote portion of the body; *i. e.*, the head or the extremities. There it continues to grow; and, living a prescribed life, becomes en-

*Ziemssen, vol. iii.

cysted, shrivels, or undergoes calcareous degeneration; or, if superficial, may be discharged by abscess formation. It is no difficult matter, therefore, to understand, and account for, the appearance of a cysticercus (measles) within or about the eye of an infected animal.

Cysticerci have been found, we might say, in all parts of the body. Delore and Bonhomme* found 3,000 in one individual, of which number one was found in the heart, pancreas, and medulla oblongata, four in the cerebellum, seven in the parotid gland, sixteen in the lungs, twenty-two in the meninges, eighty-four in the brain, and myriads in the mesentery and cellular connective tissue. Leuckart† found them in the blood of the portal vein, and the liver is oftenest the seat of these larvæ. They have, also, been found in the domesticated deer and polar bear, dog and rat.

The cysticercus cellulosæ is a thin-walled vesicle with limpid contents, seldom exceeding the size of a pea or bean. This vesicle has an irregularly wavy surface. It is usually surrounded by a capsule of connective tissue, to the inner surface of which it is closely applied. Inside of the cyst, and visible through it, is a firm, round, whitish body, which is connected with the depression in the wall of the cyst. On opening the cyst this body is found to be a pear-shaped sac. Inside this sac is the head of the cysticercus, turned inside out like the finger of a glove. The head resembles, in every way, the head of the *tænia solium* (tapeworm).

Since Von Graefe and Liebreich made the first exact observations upon this subject the number of cases has greatly increased. The first case of this rare lesion was one in which a cysticercus cellulosæ (lebender Finnenwurm) was discovered in 1829 by Sommering,‡ in the anterior chamber of the eye, of a healthy girl eighteen years of age. The parasite floated free in the anterior chamber, now and then took hold of the iris, and by its motions caused intense pain. It was removed alive by Dr. Schott, through a corneal incision, and subsequently lived in warm water for half an hour. It has also been found by Logan in anterior chamber, Mackenzie, 1832; under the conjunctiva by Baum, 1838; under the epithe-

*Archiv. Gén. 1865, i. p. 355.

†Menschlichen Parasiten, i p. 199.

‡Ammon's Zeitschrift für die Ophthalmol.

lium of the cornea by Cunier, 1841; under the skin of the eyelid by Sichel, 1847; twice in anterior chamber, under the skin of the eyelid, and under the ocular conjunctiva, Mackenzie, 1848; ophthalmoscopically, in the posterior half of the eye, Von Graefe, 1853;* in the orbit, Von Graefe, 1863; in the lens, Von Graefe, 1854.

The late Albrecht Von Graefe,† in a practice of thirteen years, saw about 80,000 eye patients, out of which there were eighty-one cases of cysticercus, within or about the eye; that is, about one in a thousand cases. Out of this number it occurred three times in the anterior chamber, five times under the conjunctiva, once in the lens, and once in the orbit, whilst the greatest number were found situated in the posterior portion of the eyeball, *i. e.*, retinal or sub-retinal, and generally escaping into the vitreous. Virchow, up to 1866, had seen it in the brain in two per cent. of all the post-mortems made in Berlin. The youngest individual affected was eight years of age. Ninety per cent. were between fifteen and fifty-five years, and it occurred only once under the retina in a man aged seventy. Two-thirds of the cases occurred in males. Only five or six of the patients previously had tapeworm, while very frequently other inmates of the house were giving lodgment to them. (This observation is of more than usual significance, as it goes to show the thoroughness with which Von Graefe prosecuted all his researches). In South Germany, Switzerland and France, cysticerci are rare. Among 61,000 eye patients whom Graefe‡ in Halle saw up to 1878, he had seen but two cases of cysticerci, and these were in the anterior chamber; one was in the eye of a child four years of age (this fact is worthy of note, as the youngest subject mentioned by Von Graefe was eight years of age). In other parts of the eye he had seen it four or five times annually. Intra-ocular cysticercus occurs at Lisbon (Fouseca, Jr.) only in the proportion of one in two thousand eye patients. The reason of cysticercus being so rarely found in the *anterior* portion of the eye, is because of the smallness of the arteries in that locality.

Leibreich§ extracted a cysticercus by means of a

*Archiv. für Oph., Bd. i. Abth. i. p. 457.

†Archiv. für Oph., Bd. xii. Abth. ii. p. 174.

‡Archiv für Ophthalmologie, Bd. xxiv. Abth. i. p. 209.

§Graefe's Archiv. für Ophthalmologie, Bd. ii. Abth. i. p. 256.

canula-forceps through a scleral incision, aided by an ophthalmoscope attached to his head, so that he was able to illuminate and observe both parasite and instrument. He mentions that the base of the neck of the parasite, which is less transparent than the rest of its structure, and is dotted with fine white calcareous particles, is the part that is most resistant, and that affords the most secure hold for the forceps. Hirschler* reports a case which is identical with that of Dr. Garretson, and many more interesting cases of intra-ocular cysticerci are reported throughout Graefe's Archives.

The methods of operation for the removal of intra-ocular cysticerci are numerous and varied, and inasmuch as the several conditions in each case suggest the adoption of a particular plan of removal, it will be unnecessary to consider or discuss them in this connection.

Von Graefe decided that in the majority of cases of cysticercus, in the posterior half of the eye, phthisis of the globe was the usual sequence, although he† successfully removed a living cysticercus from the vitreous, through a corneal section as early as 1858.‡ Lawson§ mentions, without giving particulars, a similar case recorded by Mr. J. Pridgin Peale. Dr. D. S. Reynolds,¶ of Louisville, published in June, 1874, "A case of cysticercus in the pupillary edge of the iris," of which he says "there was great pain and tenderness of the eyeball with a low degree of iritis. The pupil opened well under the influence of atropia, except at the inferior and external portion, where there was a white, opaque, pear-shaped tumor, the small end of which rested upon, and was adherent to, the capsule of the lens. A portion of the iris containing the cyst was removed. The cyst itself was so firmly adherent to the lens capsule that it was necessary to seize it with a pair of forceps, and by careful traction, made in the same plane with the lens surface, to detach and remove it; and was successful in so doing, without

*Archiv. für Oph., Bd. iv. Abth. ii. p. 14.

†Archiv. für Oph., Bd. iv.

‡Dr. T. G. Morgan, at a meeting of the Phila. Ophth. Society in 1870, exhibited a case of (dead) intra-ocular cysticercus, in a patient in whom both the late Dr. Gescheidt, of New York, and himself had previously seen the entozoon alive and in motion.

§Diseases and Injuries of the Eye, London, 1874.

¶American Practitioner, June, 1874.

rupturing the capsule of the crystalline. The cyst when placed under microscope showed three suckers and a beautiful circlet of hooklets." Vision rapidly improved.

Dr. Chas. J. Kipp, of Newark, New Jersey, presented at the International Ophthalmological Congress, in 1876, a case of cysticercus extracted from the ocular conjunctiva.

"At a meeting of the Atlanta Academy of Medicine, in March, 1878, a case of intra-ocular cysticercus was reported by Dr. Calhoun. In this case, on account of the patient's unwillingness and the general bad results of the operation, no interference with the entozoon had been attempted."*

For those who wish to investigate the subject of human and comparative helminthology, we would cordially recommend Dr. Cobbold's new "Treatise on the Entozoa, etc." The part of the book which treats of tapeworms will be found especially useful to students of sanitary science. To Dr. Cobbold we owe the knowledge which puts thus tersely the fact, that "all kinds of tapeworm larvæ, measles, bladder worms, etc., *have a natural life epoch assigned to them.*"†

He, however, reminds us, while speaking of *tænia solium*, of the danger of handling fresh tapeworms, as we might get their eggs under our nails or on our clothes, and so swallow them. We are also reminded of the danger of eating salads which may have been manured with nightsoil containing, it may be, myriads of tapeworms' eggs.

For an account of the experiments of Pelizzari, Tommasi, Perroncito and Giacomini, we must refer to the book itself; it will suffice to say that they in no way contravene the experiments of Lewis, who proved that a temperature of 140° Fahrenheit was sufficient to destroy the vitality of cysticerci of all kinds.

*Medical and Surgical Reporter, Philadelphia, June, 1879.

†"A Treatise on the Entozoa of Man and Animals, including some account of the Ectozoa." T. S. Cobbold, M.D., F.R.S., F.L.S., etc., London, 1879.

Clinical Lecture on Melancholia.

By A. E. MACDONALD, M. D., Medical Superintendent of New York City Asylum, Ward's Island.

GENTLEMEN:—The patients whom I present to you to-day illustrate the second of the four forms in our classification of insanity—the form of melancholia. You will readily perceive that there is a very decided difference between them and those whom we saw at our last meeting—at once in their appearance, their attitude, and their conduct. We have now the asthenic as opposed to the sthenic form of insanity, depression taking the place of excitement. There is none of the liveliness which was before apparent in action and speech, and instead there is depression both of mind and body. In the former class the patient was drawn out of himself, was keenly alive to all that was said and done about him; now he is self-absorbed, his thoughts are turned inward, and he is too much concerned in the contemplation of his own griefs and sufferings to pay much attention to his surroundings. If he regards them at all, it is only because he sees in them fresh dangers or new impositions.

We are accustomed to speak of melancholia as of mania, as either acute or chronic, sometimes taking account of the arbitrary division based upon the duration of the disease, but oftener and more properly having regard to the general type of the symptoms presented. Another division, depending upon the manifestations in the individual patient, recognizes the two forms—melancholia with frenzy and melancholia with stupor—in accordance with the approach toward mania on the one hand or dementia on the other. It must be remembered that the clean-cut differences in the forms of insanity which we can draw in our descriptions, or illustrate by the selection of typical patients, do not obtain through all clinical cases; that there is a gradual approach of the different forms toward one another; and that we will often find patients so exactly upon the border-line between mania and melancholia with frenzy on the one side, or between dementia and melancholia with stupor on the other, that it is hard to tell just how to class them.

ESSENTIAL DIFFERENCE BETWEEN MELANCHOLIA AND MANIA.

Whatever the particular form which melancholia may assume, the essential difference between it and mania is, as I have said, the element of depression both physical and mental. We have now pallid face, feeble circulation, and arrested secretions. The approach of melancholia is slower than is that of mania. There is no sudden and unexpected outburst, but the period of alteration is longer and is more likely to be appreciated by the friends of the patient, or even by himself. In fact, it is by no means uncommon for the patient to recognize the approach of his malady, to detect the want of reason in his fancies, and to endeavor to argue and steel himself against them, and perhaps for a time with success.

PROMINENT SYMPTOMS.

Sleeplessness is the first prominent symptom in this as in other forms of insanity; disturbance of the emotions follows, and positive delusions soon assert themselves. The patient is unable to apply himself to his former pursuits; he becomes fretful and ill-natured, his natural affections are blunted and soon transformed into actual suspicion and dislike of his family and friends, and into the firm belief that they are conspiring to do him injury, and this feeling is apt to go on to the production of violence either toward himself, or, in what appears to him, self-defense toward others, unless the plain indications in such a case are followed and he is removed from his customary surroundings and associations.

PHYSICAL CHARACTERISTICS OF MELANCHOLIA.

The first case which I present to you shows plainly, as you see, the physical characteristics of melancholia, and in a very acute form. Indeed, this is but the fifth day of his asylum residence, and his admission followed very closely upon the recognition of his disease. He is much emaciated, feeble in movement and in voice, and his face wears the expression of great mental suffering. He shows you the banner, the carrying of which through the streets and into the churches led to his arrest; and he explains the reason of the inscription upon it. The inscription is, "Freemasons everywhere!—among women and children! All working cautiously! Guard children everywhere!" And the explanation is that ascribing all his own troubles,

real and imaginary, to the body named, he considers it his duty to give this warning to others.

SUPPOSED INFLUENCE OF SECRET SOCIETIES UPON THE INSANE.

It is remarkable how frequently the false ideas of the insane are based upon the supposed influence of secret societies upon them. And it is a practical point worth remembering, for it may lead to the detection of evidences of insanity in examinations where, if the subject is not broached, the patient may not reveal his delusions. There are two or three channels, indeed, in which the delusions of melancholia are apt to run, and in my own examinations I am accustomed to lead the conversation to the subjects of Freemasonry, spiritualism, witchcraft, and electricity, with a pretty fair certainty that in connection with one or other of them the insanity will be revealed, if it exists.

You see that the patient does not seek to argue in support of his belief as to the influence that has affected him; nor does he cite any manifestations by which he has detected the influence. He *knows* that the Freemasons are responsible for his troubles, and that is enough for him.

CHRONIC MELANCHOLIA.

The second patient is an older man than the first, and his disease is of longer duration and more chronic in character. He has an equally troubled expression of countenance; but he is better nourished and is, indeed, in very fair physical health—and by this the chronic condition of his malady and the slight prospect of recovery are indicated; for when a patient improves in bodily condition without a parallel improvement in mind, it is a very discouraging sign.

SUICIDAL ATTEMPT.

This is the danger in melancholia as opposed to mania—of injury to the patient himself rather than to others—of the latter there is comparatively little fear. Patients suffering from melancholia with frenzy, do sometimes make attacks upon others, but the motive differs from that which actuates the maniac. In the one case it is fear, in the other anger.

But the main danger is that of suicide, and the tendency toward it is so general and so pertinacious that it can not

be too carefully guarded against. A peculiarity which it is important to remember is, that there is often not simply a disposition to self-destruction in any possible way that may present itself, but to self-destruction in a definite and particular way. Hence, that a patient takes no advantage of means that are ready at his hand is no proof of his safety, for he may only be waiting to avail himself of some other means upon which he has determined. He may allow razors and pistols to lie in his room unused, and then drown himself at the first opportunity.

Again, the desire to destroy one's self may be created suddenly by the sight of means by which it may be gratified, just as sane men looking down from a steeple or a bridge feel impelled to throw themselves into the street or the stream below.

Selfishness, if we may call it so, is characteristic of the insane of this class. They take everything that they see, or hear, or read, to themselves. Especially is the latter the case with the Bible, and the denunciatory passages above all. Under their dictation the right hand is cut off, or the right eye plucked out; and so the danger of self-mutilation is added to that of self-destruction.

HYPOCHONDRIACAL ELEMENT.

The melancholiac is almost of necessity a hypochondriac. The converse is not necessarily true also, though the tendency of hypochondriasis is to end in melancholia. But as long as the transition has not been made, the former may be distinguished by his utter hopelessness of cure of his supposed ailments, while the hypochondriac, though he may not acknowledge his hopefulness, shows it plainly enough by the persistency with which he seeks new remedies and new doctors.

PECULIAR DELUSIONS.

You will find several patients who will tell you that living animals inhabit different organs in their bodies. In one case it is a weasel in the abdomen, in another a rat in the skull, and in a third a doctor who moves from one cavity to another and makes himself peculiarly unpleasant in all. In such cases a feeling of discomfort or pain gives rise to the delusion, and after death the discovery of tumor of the brain or cancer of the intestines accounts for the gnawing of the rat or the weasel.—*Medical Record*, November, 1879, p. 481.

SELECTIONS.

Obscure Affections of the Nervous System.

A paper read before the Baltimore Academy of Medicine, December 16, 1879, by A. B. Arnold, M. D., Professor of Clinical Medicine and Diseases of the Nervous System, College of Physicians and Surgeons, Baltimore.

THE somewhat ambitious title of this paper would be misleading, if I did not indicate the limited range of the subject I intend to occupy. It is usual to speak of the obscurity of a disease, where its etiology and morbid anatomy remain undetermined or conjectural, and it is, therefore, only distinguished by its clinical features. There are, however, certain obscure nervous affections, which very frequently come under the notice of the general practitioner and urgently require his medical interference, but which are exceedingly puzzling because they even want that degree of uniformity in their symptomatology which is indispensable for a diagnostic basis. Some of them include, under a common name, various groups of symptoms, which bear no other relation to each other, but that they are often combined, or occur in succession. I especially refer to hysteria, spinal irritation and neurasthenia. These maladies are usually classed among the functional diseases, but on closer examination it becomes apparent that a great number of the morbid phenomena, thus separately grouped, are frequently associated with the symptomatology of otherwise well-known pathological conditions.

There are perhaps no other expressions in medical use more vague and unprecise than the words, nervousness, nervous temperament, nervous diathesis, nervous constitution, etc., etc., and for all that, these terms attempt to signalize a morbid condition, as actually existing, as it is difficult to define. In a general way it may be said that certain persons manifest a congenital, a hereditary, or an acquired excitability of parts, or of the whole, of the nervous system, which re-acts in an exaggerated or perverse manner. Or, in order to appear more exact, we may venture on the hypothesis, according to our present state of knowledge, that certain parts of the nervous structure may be in a state of unstable equilibrium, which

under known or unknown influences develop symptoms of a character, which we clinically recognize as the expression of a nervous diathesis. It is well known that French authors assign considerable importance to this "nervousness," as an etiological factor in many neuro-pathic affections. When Sydenham says, that all women are hysterical, he probably means to indicate that the nervous system of the female is marked by a vulnerability, which readily oversteps the limits of health, from the effects of comparatively slight impressions. Others insist upon the necessity of distinguishing between the nervous and the hysterical disposition; because, a person may be nervous without being hysterical, while the converse is not true. I am inclined to believe that this distinction serves no other purpose, than to characterize by the term hysteria, those remarkable functional disturbances of the nervous system, for which medical men have not yet adopted another nomenclature. This coyness in substituting a more rational name for the malady in question, obliges all systematic writers on nervous diseases to remind their readers that hysteria occurs also in the male sex.

However little embarrassment the diagnosis of all ordinary cases of hysteria may cause the experienced physician, this protean malady assumes appearances which will tax all his diagnostic acumen. The case, which I shall briefly relate, acquires additional interest from the circumstance that the patient was a boy about fourteen years of age, who, previous to the date of his first attack, had enjoyed excellent health. The symptoms, which at once attracted attention, were the labored breathing (the respiration being entirely abdominal), and the tumultuous action of the heart. He complained of no pain, but the face was expressive of dread and anxiety. Physical examination discovered nothing abnormal in the thoracic organs. The paroxysm of orthopnoea (for as such it appeared to me) lasted several hours, and after its termination the patient felt somewhat exhausted, but on the following day, after a sound sleep, he was perfectly restored and attended as usual to his occupation, which was that of an errand boy. I have had since then frequent occasion to see him during similar attacks which came on without any assignable cause, and, as there were no other evidences of disease, I began to suspect the existence of an

obscure nervous affection, though if the patient had been a girl, I would at once have diagnosed hysterical asthma. The case cleared up by and by, on the occurrence of other symptoms, which accompanied the asthmatic attacks. These consisted of strange contortions of the body and a condition resembling trance, the paroxysm ending with a violent fit of sobbing. It was this regular finale of the attacks, which revealed the hysterical element. I must not forget to mention that my patient stoutly denied the practice of masturbation.

The next case is a remarkable instance of hysteria, in a man sixty-two years of age, for whom I had opened a large abscess in the axilla, which was followed by facial erysipelas. The stage of desquamation was marked by muscular weakness, somnolence and occasional wandering. Complete convalescence was interrupted by frequent paroxysms of stridulous breathing and suffocative cough unattended by expectoration. Sometimes a state of semi-unconsciousness supervened, during which the patient performed the most grotesque antics with hands and arms, the fingers being widely separated and very rigid. Most of these attacks ended with an explosion of crying or rather blubbering. It may seem rather odd to speak of hysteria in a sexagenarian, but the patient was not one of those old paralytics, who are inclined to be emotional and lachrymose; and besides, no one would have hesitated a moment to pronounce such symptoms hysterical, if they had been witnessed in a woman. The well-known fact that mental disturbances are not uncommon after attacks of facial erysipelas, hardly amounts to serious objection against this opinion, for the diagnosis of hysteria mainly rests upon the peculiarities of the onset, the association, the course and termination of the symptoms. The following case deserves to be numbered among the curiosities of hysteria: A healthy-looking woman twenty-eight years old, the mother of two children, had suffered for a long time from headache, which corresponded to the description usually given of "*clavus hystericus*." She complained, also, of a number of other symptoms, which left no doubt as to the nature of her malady. About four months after the date of my first visit, a new and very strange symptom made its appearance. During the first few days of her menstrual period, she has considerable hemorrhage from the nipple of her left mamma, which

is accompanied by a burning sensation in this organ. I saw the blood trickling down from the nipple in large drops, and the closest examination could not detect the slightest abrasion. She is not nursing a child, her youngest being four years of age. Dr. Wilks, in his book on nervous diseases, relates a nearly similar case. He calls it *hydrosis cruenta*. In Hebra's work on skin diseases, several cases of this kind are also recorded.

It was certainly a triumph of clinical medicine, when symptoms were referred to the influence of a particular diathesis, that embraced psychical, sensory, motor, reflex, vaso-motor and trophic disturbance of a central or peripheral origin, sometimes occurring singly or in complicated groups, simulating frequently the symptomatology of nervous lesions in every part of the body, coming on abruptly, and disappearing as suddenly, or showing a remarkable obstinacy. A great amount of accumulated experience was evidently necessary before the multiplicity and variableness of hysterical symptoms would allow the suggestion of a morbid condition common to them all. The tendency of the hysterical element to involve different parts of the whole cerebro-spinal axis, so that in observing a large number of individual cases, every form of functional disturbance may come under notice, is a unique pathological condition and invests hysterical symptoms with a paradoxical character.

To ascertain the conditions and circumstances which favor or accompany the occurrence of obscure affections, for the purpose of obtaining a guide for our therapeutics, is undoubtedly of great practical importance, and this is particularly true of hysteria. Disturbances of the generative organs in the female have always been considered the most common exciting causes of this malady, but it is perhaps more than questionable whether hysteria is ever thus caused in cases where no constitutional predisposition exists for its development.

This brings me to speak of another obscure affection, which formerly had given rise to a most fanciful opinion concerning its agency in the production of a vast number of diseases, and which, after having been abandoned for some time, again finds favor with some eminent observers. Of course, I allude to spinal irritation. The connection between this symptom and hysteria is undeniable; and because a few cups or a small blister over

sensitive spinous processes are occasionally serviceable in relieving the effects of a so-called spinal irritation, this only shows, what is no secret, that hysterical females are not infrequently benefited by very insignificant remedies. Hyperæsthesia, in the region of the spine, may be no less an hysterical symptom than arthritic pains and sensitiveness of the abdominal walls, when other morbid phenomena are wanting that point to actual disease of the joints or of the peritoneum.

Although in practical medicine it is justifiable to refer a large number of ill-defined disorders in women to hysteria, it offers on the other hand great temptation to facilitate diagnosis by a too hasty judgment. There is reason to hope that, with the advance of neurological studies, many of the so-called hysterical affections will find their proper place in a more exact pathology. A step in the right direction was happily taken by Dr. Beard, of New York, who has drawn attention to the widely prevalent morbid condition characterized by nerve exhaustion, and for which he chose the term neurasthenia. It can be easily understood, to what extensive and complicated forms of disorders such a pathological state of the centers of innervation must necessarily lead. Professor Erb, in Ziemssen's Encyclopædia, acknowledges the value of Dr. Beard's contributions to neuro-pathology by devoting a chapter to its consideration. According to the large experience of Dr. Beard, cases of neurasthenia are quite as common in the male as in the female sex. I have no doubt that the following case which lately came under my notice should properly be classed among neurasthenic affections:

H. T. is a barber, twenty-three years of age. He attends closely to his business, is confined to his shop from morning until late at night, and consequently but seldom enjoys the fresh open air. Had been ill for the past two months. His general appearance was good, and there were no evidences of any serious disease. He principally complained of a fluttering at his heart, a choking sensation in his throat, and faintiness. But the symptom, which gave especial alarm to his family, was his dread of being left alone in a room. And strange enough, when he happened to go into the street and meet a collection of people, he became terrified and hastened home. The patient's trouble was entirely removed, after having been sent to

the country with the instructions to live on "the fat of the land," and go early to bed.

There is one circumstance, in connection with obscure nervous affections in women, which I think has not received the attention it deserves. The malingering of hysterical females is notorious, but there is no reason why women should not be the victims of hypochondriasis as well as men. Judging from my own personal experience, I must confess, that I have observed many cases of interminable though ever changing complaints of bodily ailments that I would have stamped as hypochondriasis, if the patients had been of the male sex. Why this disorder should be the unenviable prerogative of men is not easily understood. I venture to say, that the following brief notes of a case would satisfactorily fit the description of a genuine hypochondriac:

Mrs. H., fifty-four years old, in comfortable circumstances. She related to me in a whining tone that she has suffered for the last ten years from a number of ailments, that render her life miserable. From the lengthy catalogue of her complaints I will only mention sick-headache, dyspepsia, liver-disease, womb-trouble, gravel, internal piles, inflammation of the bowels, kidney disease, night-sweats and rheumatism. She is extremely cautious in her diet, wears thick flannel during the summer, a liver-pad, a pessary, and a Pulvermacher's chain. She has taken any amount of medicines. In spite of all these diseases, the remedies and the appliances, she is the very picture of health. She was extremely pleased when I wrote her a prescription filling a whole page of fools-cap.

The limits of this paper prevents my pointing to other morbid influences, which bring in their training a host of nervous symptoms that tend to darken diagnosis. I would merely enumerate some of the best known, such as chronic alcoholism, abuse of tobacco, coffee and tea, sexual excesses, the forced abstemiousness of spinsters and young widows, anæmia of the brain and spinal cord, and the wear and tear of body and mind in the hot race for wealth and distinction.

Keeping in view these circumstances, and many more that must readily occur to the physician, under which obscure nervous affections make their appearance, much valuable aid to diagnosis will be afforded. It happens in cases of this kind, as in all obscure diseases, that an ac-

quaintance with the previous clinical history, and not so much the nature of the symptoms, not only assists in the recognition of the special malady, but also presents the proper indications for treatment. This is especially the case with hysteria. A hasty glance at the principal disorders that may owe their development to the hysterical diathesis is sufficient to show, how much the practitioner must be on his guard in order to escape diagnostic blunders. Mental disturbances of hysterical nature, not only present the well-known features of perverseness or weakness of the will, emotional excitement or depression, but the language and the conduct of the patient may display a degree of moral depravity or exaltation of sentiment and behavior, which closely trench upon, or actually pass into, confirmed insanity. The functions of special and common sensation are frequently disturbed in various ways. Smell, sight and taste may be transitorily affected; trance, aphonia, laryngeal spasm, hyperæsthesia, anæsthesia or paræsthesia may be present, while neuralgia in different parts of the body are vere common. In the motor sphere of nerve action extensive or limited forms of convulsive seizures, paralysis, cramps and rigidity of limbs and joints occur. Gastric, intestinal, uterine, ovarian and vesical derangements complete the host of maladies that may all have hysteria for a pathological basis. And as if the occurrence of these multifarious symptoms were not enough to embarrass diagnosis, it must be borne in mind that similar ailments variously combined, not uncommonly precede the onset of acute diseases, and appear during the course of chronic affections. Formerly it was the fashion, and to some extent it is now, to neglect or to think lightly of the suffering of hysterical females, for the reason of the favorable prognosis as regards danger to life. The little consideration which these patients received from the physician, as well as from their friends, was in some measure due to the imposition sometimes practiced by hysterical females, which has not inaptly been called "vulgar hysteria." At the present day, more concern is felt by medical attendants for persons who are the victims of hysteria in any of its forms. We possess now in electricity, the bromides and chloral, therapeutical means, which exercise considerable control over many hysterical affections. There is indeed one remedy which, were it not for the great risk of inducing

a deplorable habit, would highly recommend itself in the treatment of this malady. According to my personal experience there is no other remedial agent that acts so promptly in giving relief to a multitude of hysterical symptoms, as alcoholic stimulants. It is my conviction, that many a sad case of intemperance in women originates in the power which alcohol exerts in soothing the distressing sensations inseparable from nervousness and hysteria. In praise of the traditional anti-hysterical drugs, such as assafoetida and valerian, it must at least be said, that they do no harm.—*Maryland Medical Journal*.

The Treatment of Typhoid Fever in the Philadelphia Hospitals.

THE HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

THE remedies which have been found at the University Hospital to exert the most powerful influence upon the follicular intestinal catarrh, always present in this disease, are first and foremost the nitrate of silver, and next the subnitrate of bismuth and carbolic acid. There would seem to be abundant evidence that nitrate of silver reduces the size of the enlarged follicles, relieves the inflammatory engorgement, and allays the hyperæsthesia of the nerves. It has also been settled by numerous experiments that the nitrate of silver is the most easily administered of the three astringents above mentioned, and the best tolerated by the system. If there is any putrid element in the disease, carbolic acid is employed instead of the nitrate of silver. The nitrate of silver is administered in doses of one-fourth of a grain four times a day. This treatment is persevered in until the ulcers have entirely healed.

If the discharge from the bowels is composed of small, semi-solid stools, it is, with propriety, disregarded; but if the stools are watery and large, opium is administered in pill-form, combined with the nitrate of silver. From one-quarter to one grain of the powdered opium is given three times a day. If there is constipation instead of diarrhea, belladonna is given conjointly with the nitrate of silver.

Great care is had with regard to the diet when the

catarrhal inflammation of the intestines is present. The food employed is, of course, as digestible as possible. Milk has been found to be the best diet in this disease. If the curd appears in the stools, the milk is diluted with water, or lime-water. Of this mixture of milk and lime-water three ounces are given every two hours, or a little over two pints in the course of the twenty-four hours. When the bowels are torpid, beef or mutton broth is given alternately with the milk.

The beef-tea employed is prepared after the following recipe: Take a quantity of tender meat, and, after cutting off the fat, chop it up fine, put it in a bowl, pour a pint of water over it, and let it stand over night. The water should be kept just on a simmer—the temperature never being allowed to go above 140° , otherwise all the albumen is coagulated, and so either left on the sieve in straining, or introduced into the stomach in the form of curds. After this simmering solution has been allowed to stand over night, pour it into a pipkin, and heat it again gently with enough salt to give it flavor, and, if necessary, add a drop or two of muriatic acid. Then pour it out over a hair-sieve into a jar. The resulting solution will be found to contain all the nutriment possible, and to be the most valuable kind of stimulant and laxative.

When the fever is high, the patient is given all the food he can take. Care is had, however, that, in allowing food, the already inflamed intestinal tract is not further irritated.

The poison in the blood is controlled by means of quinia, and nitro-muriatic or salicylic acid. As a general thing, salicylic acid is only employed where there is some putrid discharge joined with high fever. Quinia is considered (1) to neutralize the effects of the septic poison in the blood, (2) to act as a good tonic to the muscular and nervous systems, (3) to tend to check febrile action, and (4) to remove any malarial element that happens to be present. Quinia is never given in the enormous doses advised by the German physicians. It has been found that such doses will break down high fever, but they produce entirely unnecessary irritation of the gastric mucous membrane. About twelve grains of quinia are given in the course of the twenty-four hours.

The temperature is kept down by preventive measures rather than by the cold bath, which is regarded as a last

resort. It is unnecessary after this to say that the practice of the University Hospital is wholly opposed to the indiscriminate cold bathing in typhoid fever, so much in vogue in Germany within a year past.

When the temperature runs up in spite of drugs, in the milder cases, spongings of the whole body are practised every two hours, the sponges being squeezed out of a mixture of water and bay-rum at a temperature of from 60° to 80° . If this does not succeed (it rarely fails), and if the patient's temperature mounts up to 104° or 105° , he is then wrapped up in sheets wrung out of cold water. If the temperature still runs up to such an extent that life is threatened, the patient is placed in a cool bath until the bodily temperature is sufficiently reduced.

Before the local lesions appear, the fever can be more boldly attacked; but when, in subsequent stages, it runs high, it is regarded as partaking of the nature of a sympathetic fever, largely dependent upon the amount of intestinal lesion, and the use of baths at this period is thought to be attended with great risk. If the cold bath is used at all (except as a last resort, and when temperature can not be reduced in any other way), it is employed during the first ten days in cases where the temperature rises above 103° and can not be controlled by frequent spongings, large doses of quinia, diaphoretics, etc.

With regard to the use of stimulants, the hospital practice is not in favor of administering them simply because a patient has the fever. It is believed that stimulants are only demanded for the relief of certain symptoms. As a general thing, they are not given to children before the age of puberty. They are only administered to old persons, and to meet certain indications, namely, (1) ataxic nervous disturbances, such as sleeplessness, twitchings of the muscles, maniacal delirium; (2) circulatory disturbances, such as feeble and rapid pulse, and feeble development of the first sound of the heart; (3) profound asthenia, as shown by great tremulousness, inability to make any movement, and tendency to slide down off the pillow; (4) dry and brown tongue, with sores on lips, teeth and tongue.

The milder forms of stimulus are always used at first. The one most frequently employed is wine-whey. This is made in the proportion of one part of sherry to three of milk, and as much as a gill or half a pint of it is given

in the course of three hours. If the symptoms increase, stronger stimulants are used, such as whisky. Whisky is usually given in lime-water and milk; the lime-water prevents the coagulation of the milk by the alcohol. These ingredients are mixed in the proportion of one table-spoonful each of whisky and lime-water to every three ounces of milk. In this form half an ounce of whisky is given every hour. If the stimulation is doing good, a diminution of the serious symptoms is noted. If the symptoms increase, on the other hand, the amount of stimulus is reduced.

With regard to complications: relapses are always regarded as true second attacks of the disease, and are treated accordingly. The treatment is resumed, the diet restricted, and the same general watchfulness had over the state of the case as during the course of the first attack.

Hemorrhage occurring early in the attack is considered as of little consequence, but when it supervenes later—when the sloughs are thrown off—it is regarded as a very serious matter. The treatment of hemorrhage is by absolute rest in bed for twenty-four hours, and by the administration of opium, to produce complete quiet for the alimentary canal. The opium is given by the rectum, one grain of the solid opium being prescribed every two or three hours until the patient is gently under its influence; of astringents, for local action, acetate of lead is preferred. A suppository containing one grain of opium and three grains of the acetate of lead is given three or four times daily. Ergot, by reason of its action upon the walls of the arterioles, is also very highly prized. It is given hypodermically near the supposed seat of the hemorrhage. The food allowed is very small in quantity, and absolutely liquid.

Peritonitis is treated by antiphlogistics, sedatives, perfect rest in bed, and a diet which leaves no residuum to irritate the bowels.

True perforation is regarded as beyond the reach of medical skill to mend.

THE GERMAN HOSPITAL.

The quinine treatment (heroic doses) has been given a fair trial in the wards, and has been found to do but very little, if any, good. It has not even been satisfactorily

demonstrated that it reduces the temperature, as the same changes in temperature have taken place in the case of those who have been taking the mineral acids alone. Indeed, after giving quinia some time in some cases it was stopped, and the same changes were found to exist. Quinia has seemed rather to increase the diarrhea and headache, and in two cases it produced entire deafness for two weeks. Sponging with vinegar and water has been found to act beneficially. Plenty of ice is given the patient to suck, and the ice-cap is applied to the head. The wet pack has been found to lower the temperature for the time being, but in an hour or more it generally mounts up again. To this is added the consideration that it has the disadvantage of necessitating the constant moving of the patient, wearing and weakening the constitution, thereby destroying his or her main support against the disease.

Oil of turpentine, as recommended formerly by Dr. George B. Wood, has been proven to act most beneficially. Especially has it been found useful in those cases where the dry, dark, and heavily coated tongue exists, with abdominal symptoms. It is given in twenty-drop doses in mucilage, every hour or two, and is continued in smaller doses during convalescence. In a large number of cases in which dry, dark tongue existed with tympanites, turpentine acted most beneficially, the tongue regaining its normal color and becoming moist in from six to eight days, and the tympanites disappearing in a much shorter time.

The mineral acids are of great service in keeping the stomach in good order, stimulating the appetite and relieving the intense thirst. In many cases the patients call for their dose of the acid hours before the time, so much are they pleased with its taste and effects. The acid commonly used is the dilute nitro-muriatic acid.

Whenever active, wild delirium exists, from one-third to one-half of a grain of morphia is given hypodermically. This medication has been found to act promptly in almost every instance. In one case particularly, the patient toward evening showing signs of approaching delirium, a large dose of morphia was immediately given hypodermically, which had the effect of rendering the patient perfectly rational when he awoke. Upon another occasion, when this same patient again showed signs of ap-

proaching delirium, the morphia was omitted, upon which a wild attack of delirium came on, which was at once broken up by the use of a moderate dose of morphia hypodermically.

THE EPISCOPAL HOSPITAL.

The temperature is reduced and the heart strengthened by fifteen-drop doses of the tincture of digitalis and two grains of quinia, every three hours. Stimulants are only employed in the severer cases. Excessive diarrhea is controlled by injections containing fifteen drops of laudanum and half a fluid ounce of starch. Dilute muriatic acid is given in fifteen-drop doses every three hours, and in the second week of the disease five drops of turpentine are administered every three hours. Hemorrhage from the bowels is controlled by the internal use of ergot, and the local application of ice to the abdomen. A number of cases have been treated of late with one-fourth grain doses of the nitrate of silver in the second week of the disease, this dose being repeated every three hours with entirely negative results.

THE PENNSYLVANIA HOSPITAL.

Ten grains of quinia are given daily, and ten drops of muriatic acid every three hours. The patient is sponged all over with cold water, in mornings and evenings. Diarrhea is controlled by opiates and astringents. This is the routine treatment. The diet is very carefully regulated, consisting principally of beef-tea and milk. When the first sound of the heart is altered (weakened) early in the course of the disease, it is regarded as an indication that the patient should immediately be put upon the use of stimulants; or, if he is already taking whisky, that the daily amount should be doubled.—*New York Medical Record*, November, 1879.

Treatment of Enteric Fever.

IN Vol. IX, St. Thomas's Hospital Reports, just issued, we find the following *resume* of the treatment of seventy-one cases of enteric fever, in which the death-rate was 11.1 per cent.

On examining the bed-tickets of the seventy-one patients it is found that in by far the great majority of cases

the treatment adopted has been expectant. As a rule the following course has been adopted. The patient has been bathed (washed) on admission, and then kept perfectly quiet in bed till about the tenth day after the temperature has sunk to normal. For the most part the diet has consisted of milk, beef tea, occasional eggs, with alcoholic stimulants when indicated by the constitutional state. The medicines ordered were either salines, effervescing or otherwise, or the mineral acids. Thus, it may be stated, that in no case has any treatment been adopted which would have for its object the arrest of the fever—in other words, no methods of relief were prescribed as specifics; for, although salicylate of soda and quinia were given in one or two cases, they were used for the control of hyperpyrexia; and in the same category must be placed the graduated bath. The medicines most frequently ordered have been the dilute hydrochloric acid, effervescent citrate of potass, and preparations of ammonia.

¶ In order to reduce hyperpyrexia, the graduated bath was administered in ten cases. This subject is treated in a separate paper by Dr. Ord, in which he says:

To sum up the general results of observation and reflection, the following propositions may be laid down: that the graduated bath, reduced, during a period of from twenty minutes to thirty minutes, from between 90 and 100 to between 70 and 60° Fahr., is a powerful agent in the reduction of febrile temperatures; that in enteric fever it is most efficient and most safely applied early in the disease; that it is not contra-indicated by intestinal, cerebral, or pulmonary complications, but, on the contrary, distinctly tends to check them; that it is contra-indicated by excessive feebleness or rapidity of the pulse, or by great exhaustion; that it is desirable in many cases of intense fever to use the bath more than once; in fact, to repeat it so long as the fever is unchecked, but not to repeat it at shorter intervals than twelve hours, an apparent revival of the temperature often subsiding after such a period. And I am of opinion that the systematic use of this kind of bath as early as the seventh or eighth day of fever is likely to contribute importantly to the reduction of the mortality from enteric fever in hospitals.

As regards the treatment of diarrhea, no astringent or other remedies were prescribed so long as the purging was not severe; but any case in which there were passed

three or more loose motions per diem was treated with special remedies.

In the treatment of urgent diarrhea sulphuric acid was frequently prescribed, often in conjunction with opium, or opium and its preparations were given by themselves. In children vegetable astringents were used, such as catechu, hematoxylin, etc. When the purging became severe, and a remedy was required which should act in a short space of time, enemata with opium, or morphia suppositories (gr. $\frac{1}{2}$) were used. Occasionally the tincture of assafetida was added to an enema if there was much distention of large intestine. Hemorrhage was mostly treated with ice-bag to the abdomen, and either morphia or opium by some of the physicians, or spirit of turpentine by others. This last remedy, by results, would appear to have been most efficacious. Ergot was given in three cases. The guide to the seat of application of the ice-bag has been the situation of pain and tenderness. The ice-bag was not invariably ordered when hemorrhage was suspected or showed itself, and when it was applied some astringent was also administered.

In perforation or peritonitis opium was mainly trusted to, and was given in large and continued doses. In one case it had a markedly beneficial effect upon hiccough, which was causing great distress. Vomiting, if it became severe, was met by ice, effervescing salines, the subnitrate of bismuth, hydrocyanic acid, and rarely liq. strychnia. In one case the vomiting was arrested by an addition to diet.

Delirium and sleeplessness were treated with chloral in four cases. Opium was the general remedy, and occasionally bromide of potassium was prescribed, either by itself in large doses (gr. xx), or in combination with other drugs. Further, although the prime reason for ordering a graduated bath was the high temperature, the bath was nevertheless a very successful remedy in controlling delirium.

Constipation was combated in the great majority of cases by enemata, either simple ones of gruel, or with castor oil thrown in. The rule has been to give one every second or third day if the bowels were very obstinate, but not so frequently if no discomfort. Laxatives were rarely given, and only toward the end of the fever. They

consisted of castor oil in drachm or two-drachm doses, or of preparations of senna.

Quinia was given in three cases in large doses with a view to the reduction of temperature, but only with slight temporary benefit. To two of the above patients salicylate of soda was given after the quinia had partly failed. Finally, in a fair minority of patients, no medicine was prescribed at all, the only remedy on the bed-ticket being an occasional simple enema.

As regards alcohol, the diet columns show that twenty-six, or over one-third, patients received no alcoholic stimulant whatever, or some only during convalescence. Of the remaining forty patients, thirty-three were ordered stimulants during their first week's residence, and seven only during the second week—in other words, when the fever was most severe. The quantity varied from one glass of wine to eight ounces per diem, and in one case to eight ounces of brandy.

Clinical Reflections on Thirty-three Consecutive Cases of Diphtheria, with Remarks on the Management of the Disease.

BY A. M. FAUNTLEROY, M.D., STAUNTON, VA.

AN outbreak of diphtheria at the Virginia Deaf, Dumb and Blind Institution during the fall of 1878 presented exceptional advantages for the observation and study of the affection. The large number of cases under the same roof, following one another at brief intervals of time, afforded facilities for direct comparison of the pathological phenomena in the disease, rarely, if ever, offered in private practice. As a detailed account of the cases would render this communication unreasonably lengthy, it is proposed to submit, instead, a generalization of the facts, solved from a careful consideration of the cases individually.

As the conclusions drawn in the premises hinge their acceptability upon the diagnostic accuracy attained in each case, we shall not remain content in asserting that we know diphtheria when we see it, but shall submit the evidence to the criticism of the *clinician* by whom any false strokes made in the "shades, shadows and perspect-

ive" of the portraiture, would be detected. The facts in connection with this outbreak of diphtheria have an interesting bearing upon the question of the propagation of the disease.

The first case occurred in the person of a pupil, who, on his return from home, though feeling badly, made no formal complaint, and continued to mingle with the other pupils in the study-hall and dining-room until the fifth day after his arrival, when he took to his bed. Upon examination, the glands of the neck were much swollen; skin dry; pulse-rate, 120, and compressible; temperature, 100°F. The throat presented a dark and foetid membranous exudation; plainly the exudation had been upon the throat for some days.

Within twelve days after the disclosure in this case, eighteen additional cases had been carried to the Infirmary. Before the expiration of a month, the cases aggregated thirty-three in number. Besides the apparently conclusive proof of the importation of the disease, the sanitary condition of the buildings and surroundings discredited any idea of the local origination of the disease. The buildings during the vacation just closed had been cleansed from cellar to garret. The water supply is excellent, and comes from a source amply protected from contamination. The lighting and ventilation of the buildings, and the drainage of the grounds, are admirable. The sewerage is adequately secured against the escape of foul gases into the building. The conclusion is irresistible that the disease was imported, and that its *rapid extension in the household was due to direct communication.*

After the discovery of the first case, which was promptly isolated, the throats of the pupils were examined daily. This precautionary measure gave us an opportunity of observing the earliest indication of the disease, which were manifested by a dusky redness of some portion of the throat, with a swollen state of the mucous surface. This condition was accompanied by a sense of dryness, but no marked pain in the throat. In addition, there were slight intumescence and sensitiveness of the glands situated in the superior anterior carotid triangle on either side of the neck; weariness, or a feeling amounting to prostration; increase of bodily temperature and pulse

in the majority of instances; appetite impaired; tongue coated, but usually moist.

Within a period, varying from a few hours to a day, white, greyish or yellowish patches appeared upon the previously reddened and swollen surface of the throat. In six instances, where the exudation was meager and confined to the tonsils (which clinical experience has shown to be the mildest form), we embraced the opportunity to observe the evolution of the membranous exudation from its first appearance to its exfoliation, undisturbed by any direct application. The exudation increased either by extension circumferentially, or by coalescence of two or more patches; this exudation grew thicker in the central portion, and gradually shaded off in the surroundings, and appeared to be incorporated with the histological elements of the mucous membrane. Shortly, its edges became defined and puckered; the surrounding redness abated, and the exudate appeared raised *en masse* from its base. During this period, the exudate presented acromatic changes from its primary white or greyish hue to a deep yellow, buckskin color. These transformations presaged the exfoliation or detachment of the exudate, which took place on the second or third day after its appearance, either *en masse* or by slow molecular disintegration, leaving its late site somewhat reddened and streaked with muco-purulent matter.

In order to illustrate the constitutional manifestations of the contagium, we shall group its effects, restricting the account to such as came within the purview of the outbreak aforesaid.

Effects upon the Bodily Temperature.—The heat of the body, though generally but slightly elevated beyond the normal standard in the initiatory stage of the disease, rises rapidly (with an increased dryness of the skin and tumefaction of the cervical glands) during what we shall call the maturative stage of the diphtheritic membrane. The temperature never became very high, nor was it long sustained, but generally subsided before or on the fifth day, with the completion of the exudation, and dropped down almost to the normal bodily temperature during the period of the exfoliation. The degree of fever manifested is, by no means, a perfectly reliable index of the gravity of the attack; for, even in the severer forms, the temperature may not become strikingly marked throughout their en-

tire course, but may present an early tendency to declension or fitful and irregular increments, with coolness of the extremities. Though the vacillations of temperature are not always trustworthy experiments of the progress and decline of the exudation, yet it obtained, as a general rule, under our observation, that an increment of bodily heat betokened a forward movement, while a decrement signalized a retreat or halting of the exudation.

Effects upon the circulation.—In the initiatory stage (prior to the appearance of the characteristic deposit in the throat), the pulse is usually but slightly accelerated, yet becomes frequent during the formative stage of the exudation—never displaying, at any time, the characteristics of what we shall call a *sthenic* pulse, but, *ab initio*, inclining to frequency, fullness, compressibility, feebleness and intermittency—the indices of diminished blood pressure and weakened ventricular contraction.

Effects upon the Respiration.—The breathing is not disturbed proportionately with the circulation. We have, however, observed instances of an embarrassment bordering on dyspnoea, when (by the method of exclusion) it could be ascribed only to a relative spoliation or diminution of red corpuscles—the oxygen carriers.

Effects upon the Nervous System.—The sense of “tiredness” and prostration experienced from the earliest stage of the disease, deepening during its progress, and remaining even during the period of convalescence, are distressing tokens of impaired nervous tone. Likewise, the restlessness and wakefulness occurring early in some instances, and drowsiness and lethargy later in others, should be severally attributed to diminished innervation. The ganglionic nervous system early exhibits its morbid entanglement in decided anorexia or loathing of food, with a manifest depreciation of the digestive, assimilative, secretive and excretive actions. The rapid anæmia, which occurs, to a greater or less extent, in every case of the disease, further signalizes the serious damage sustained by the *organic nervous* system, the regulator of the recondite actions of the organism.

Among the neuro-pathological sequences of the contagium of diphtheria, we have to record the following observations: Impairment of ocular accommodation and difficult deglutition; an instance of reflex vomiting which occurred shortly after the exudation (which had been ex-

tensive and foul) became detached; for two weeks the ingesta were invariably returned—sometimes immediately—more frequently within an hour or two; also, two instances wherein occurred such irregular movements of the lower extremities as to simulate locomotor ataxia.

The Period of Incubation.—Embracing the interval between the known exposure and the appearance of the characteristic deposit in the throat—ranges (according to our observation) from three to fifteen days.

The Modes of Dying.—The most frequent modes of dying are by adynamia or apnoea (laryngeal obstruction); occasionally by cardiac paralysis, syncope, heart clot, septicæmia and sudden collapse. We have to record but a single death out of the thirty-three cases. The death occurred by adynamia in the person of a new, unmanageable pupil, to whom the deaf and dumb alphabet and sign language were alike unknown, thus precluding intelligent communication. These facts are adduced in order that we may record our strong conviction that this mode of death should and may be generally averted by an early, timely and systematic recourse to stimulants, with abundant and nutritious alimentation.

The Nature of the Affection.—Professional opinion has undergone several variations during the last fifty-odd years—starting them with Bretonneau's declaration that it is wholly a local disease; though this view was subsequently so far modified as to include possible blood poisoning by absorption of putrescent matter from the throat.* Upon the heels of Bretonneau followed a host of observers—French, English, American and German—who insisted upon its specific and general nature. This latter view attained general acceptance until, within the last decade, experimental investigators (Oertel, Heuter, Tommase, 1868) have essayed to prove that the affection "*begins as a local disease and develops afterward into a general one.*"† The clinical history of diphtheria seems, to our mind, to clearly establish the primary constitutional characters of the disorder. The theory of the localists, led by Oertel, is an attractive one to the histological pathologist—Bacteria finding a lodgment in the throat, originate local trouble, and then start out by way of the

*Mémoires Académie Royale de Médecine, 1821–26–27, Paris.

†Ziemssen's Cyclopedia of the Practice of Medicine, Vol. I.—"Diphtheria"—Oertel;

lymphatic channels to depredate upon the living territory near and far—certainly quite considerate and deliberative action on the part of the bacteria when there are more direct modes of entrance into the system. Whether the specific poison of diphtheria be cryptogomic, animalcular or gaseous, matters not for our present purpose. If clinical facts have any special meaning, the evidences of systemic poisoning are *actual prior* to the establishment of “a local habitation” on the part of the contagium. The sense of prostration experienced, and the thermometric evidence of tissue hyper-oxidation anterior to the exudation in the throat, are not without significance. The swelling and tenderness of the lymphatic glands, below the jaw, previous to any deposit in the throat, is also full of meaning. These, together with the interference in the several processes which lead up to sanguinification, are evidences of systemic occupation by some invading host, making good its intrenchments before displaying its ensign. Indeed, we have seen instances where not one of the classic signs of inflammation (rubor, calor, tumor, dolor) could be observed in the throat; yet the subjects complained of weariness of body and limbs, and within twenty-four hours developed alike the faucial redness and the membranous exudation. In instances of relapse, we have witnessed again and again (when the throat had become clean and convalescence was seemingly at hand) a removal of febrile excitation—before the exudation reappeared in the throat. Clearly, such phenomena are demonstrative of the stealthy inroads of a specific poison into the great highway of the organism, which, with the blood, everywhere pervades the body, exerting more or less of a baleful influence upon its every tissue. The kidneys, in at least a third of the cases, exhibit in a day or two their share in the general systemic distress by the appearance of albumen in the urine. The case mentioned by Dr. Burdon-Sanderson, in which albuminuria appeared eighteen hours after the patient had been in perfect health, is confirmatory of our thesis as to the primary implication of the system by the poison of diphtheria.* Numerous authorities have recorded alterations of structure in the stomach, liver, spleen and kid-

*“Contribution to Pathology of Diphtheritic Sore Throat.”—*British and For. Med. Chir. Review*, January, 1860.

neys in fatal cases. *Post-mortem* revelations have been made of degenerative changes in the brain, spinal column, nerves and muscles. These are the ashes, so to speak, evidencing on every hand the general character of the conflagration. In homely phrase, we believe the localists, in the enthusiasm of their experimentation, have *placed the cart before the horse*.

As the question has a practical bearing upon the management of the disease, we would loudly re-echo the opinion that "diphtheria is a general disease. It has local deposits, it is true, but in the same manner that scarlatina will localize itself on the skin, mucous membrane of the Belinian canals, etc.; measles on the skin and mucous membrane of the respiratory organs; or typhoid fever on the mucous membrane of the intestinal tract."*

Diagnosis.—The occurrence of a *membranous* and *coherent* exudation is the clinical stamp of diphtheria; which, in connection with more or less constitutional depression, should enable us to separate it from the few affections with which it is likely to be confounded. The violent onset of scarlatina, its high fever, cerebral and gastro-intestinal derangements; the uniformly reddened and oedematous condition of the throat, with such a want of coherency in the depositions which may cover the throat as to render them pultaceous in character, presents, *tout ensemble*, a picture so variant from diphtheria that, even in the absence of the peculiar scarlatinal rash, discrimination could be easily made.

During the outbreak herein mentioned, three cases of follicular tonsillitis occurred in the Institution, accompanied by fever. The tonsils were swollen and red, dotted here and there with small, yellowish patches of sebaceous matter, occupying the oval depressed mouths of the crypts which pour their contents on the surface of these conglomerate glands. However, these sebaceous patches *do not display the least disposition to coalescence*. Failure to mark the peculiarities emphasized, may lead to an unwarrantable expansion of the statistics of diphtheria.

Treatment.—We have no specific or "cut and dried" medication to proffer for diphtheria. We believe this, as

*See an excellent article on the "Pathology and Therapeutics of Diphtheria," by Dr. A. Jacobi, *Amer. Jour. of Obstet.*, February, 1875. It is but just to say, however, that Dr. Jacobi now coincides in belief with the localists.

every other affection, may best be met by treating the individual subject of it rather than the disease, so-called. We have an abhorrence of the routinism that attempts to bring numerous cases, with their individual peculiarities, down to the Procrustean bed of a preconceived mode of treatment. The clinical feature, which may be recognized, to a greater or less extent, in every instance of the affection—whether occurring in the robust or enfeebled condition—is *adynamia*. Its utterance, being only less pronounced in the one instance than the other, clearly teaches the lesson that any medication tending further to lower the individual *tonus* would be malpractice. Corroborant agents should be employed, with every precautionary measure to conserve the strength of the organism. The patient should be put to bed and kept there until convalescence is fully assured. During the outbreak in the Institution, we witnessed three cases of relapse (with a return of both constitutional and local trouble), attributable to a disregard of this precaution. In the outset of the disease, when there is reason to believe that the stomach and bowels are embarrassed by food or its products, we resort, in a single dose, to an emetic and aperient, with a uniform leaning toward ipecac in the combination. Stimulant tonics are resorted to at once, notwithstanding the presence of fever—which is a *snare and delusion, brief in duration, and signalized by diminished blood pressure*.

Iron, whilst not a specific remedy, is yet *primus inter pares* in confronting the drift toward anæmia, with all its baneful direct and indirect influences. By an early resort to iron, the systemic forces are strengthened, and the enemy met and overcome in detachments before it can mass itself in overwhelming numbers. It fortifies the weakest part of the line of defense by directly acting upon the blood as an ozonizing agent, improving its quality and sustaining indirectly all the nutritive functions of the economy. The old muriated tincture of iron, in decided doses, is the most reliable and serviceable preparation—administered in conjunction with the potassium chlorate, spiritus Mindereri, or spiritus ætheris nitrosi, according to the indications.

Chlorine water, in combination with the iron, has served to abridge the fever and palliate the thirst and dryness of the throat. It acts locally by its oxidizing agency, as

a disinfectant and cleanser of the throat. Systemically, its influence is felt as a stimulant tonic. The cases before referred to in which no direct application was made to the throat, were most satisfactorily managed by this combination.

The sulphate of quinia is unquestionably a valuable agent in this disease. When given in moderate doses—two to five grains—its action is that of a general nervous stimulant, assuaging weariness and restlessness, and invigorating the vaso-motor centers, whereby arterial pressure is exalted. Upon the certainty of this action of quinine in tonic doses, experimentation and clinical observation are in unison. The instances are rare in which *alcoholic stimulants* do not become specially applicable during some period, either early or late, of this affection. Indications of nervous depression, frequency, feebleness or slowness, irregularity, compressibility of the pulse, are the signals of systemic distress demanding the sustaining influences of alcohol. Some years ago, we became deeply sensible of the inestimable value of the alcoholics in certain phases of the disease. We had just witnessed the death of a little patient from collapse; and, apprehending from the symptoms a similar result in the case of the twin brother, who was prostrated at the same time with diphtheria, we gave to this child, in his third year of age, a teaspoonful of old *ante-bellum* brandy, every two hours, for three days—the stimulants being gradually lessened in quantity as the signs of improvement became more and more marked. In subsequent encounters with diphtheria, and notably so in the Institution outbreak, the satisfactory results of its employment have deepened our conviction of its remedial worth. Although we are not persuaded of the direct antagonism of alcohol and diphtheria,* yet we are fully convinced of its great value in combating the phases of asthenia in which diphtheria is so eventful. This it does not do in an antidotal sense, but by virtue of its stimulant influence upon the arterial and nervous systems. It acts as a retarder of tissue waste—a conservator of the bodily strength through the correlative force contributed to the nutritive processes of the organism.

From observation, we are disposed to believe that po-

*Antagonism of Alcohol and Diphtheria, by E. N. Chapman, A. M., M.D., 1878.

tassium chlorate enhances the goodly effects of the tincture of iron, in conjunction with which it is usually administered. Though observation has shown that the chlorate does not yield its oxygen to the blood, as was once supposed, yet it is not at all improbable that it may, by catalysis, increase the ozonizing influence of the iron. Possessed of a high diffusion power, it pervades the tissues of the body, stimulating the recondite interchanges which occur between the blood and tissues, and promoting the drainage of the system by its diuretic action. Whatever may be explanation of its action, still the clinical assurances of its usefulness are undoubted.

Where the larynx is invaded during the progress of the disease, the remedies already referred to may be appropriately continued, with the *inhalation of warm air* laden with moisture or vaporized aqua calcis.

When the laryngeal obstruction is urgent, a direct emetic should be used.

In the forms of paralysis consequent upon the disease, strychnia or nuxvomica are serviceable addenda.

When the muscles of deglutition are paralyzed, we have resorted to the nasal tube and stimulant enemata, which we have been obliged to use for weeks. Sponging the body with warm whisky and anointing daily with vaseline and cod-liver oil, have proved highly serviceable. Alimentation is a most important factor in the successful management. Concentrated and liquid aliment will be found best suited to the depreciated digestive powers. Milk, meat juices, mutton and chicken broths, well made, should be given in quantities adapted to the gastric powers, and at short intervals of time.

Local Treatment.—In the early stages, direct local treatment of the throat we regard as a most important measure. We have usually employed the following astringent and antiseptic combination: *R.* Liq. ferri persulphatis, 3j; acidi carbolic, gr. x; glycerinæ puræ, 3ss. *M.* Make lotion. *S.* Apply with camel's hair brush over and around the exudation once in twenty-four hours. Such an application occasions a condensation of the membranous deposit, and restrains the abnormal growth and multiplication of the epithelial cells (which are the essential pathological factors of the pseudo-membranous formation), thus hastening the limitations of the diphtheritic deposit, and promoting its evolutionary changes

and detachment. When the posterior nares are implicated, the nostrils may be advantageously syringed, night and morning, with the lotion mentioned, diluted with warm water (gtt. x to aq., ʒj). Spraying the throat three or four times daily with aqua calcis, or a solution of lactic acid (fʒj to aq., ʒiv) has seemingly facilitated to exfoliation of the membranous deposit. Experience has demonstrated the good effects of the potassic chlorate, in solution, as a mouth-wash and gargle. Its stimulant and corroborant influences upon mucous surfaces are attested by the relief afforded in the phases of stomatitis which usually complicate diphtheria. Gargles of carbolic acid, chlorine water, diluted sulphurous acid, potassium permanganate, used at short intervals, have severally proved serviceable in cleansing the throat, deodorizing the breath, and removing the septic products of the decomposing exudation, which, if taken up by the absorbents, would complicate the case by their harmful influences. It is just in this connection that local antiseptic measures are of inestimable value.

Bretonneau grasped the truth, but not the whole truth, when he declared that systemic poisoning could alone occur from the absorption of putrescent materials from the throat—thus illustrating the force of Herbert Spencer's words that a "falsity has usually a *nucleus* of reality."—*Virginia Medical Monthly*.

Academy of Medicine of New York—Section on Theory and Practice.

REGULAR MEETING, MAY 20, 1879, E. H. M. SELL, M. D., CHAIRMAN.

AT 9 P. M., the Section was called to order by Dr. E. H. M. Sell, Chairman.

It was voted that, owing to the lateness of the hour, the reading of the minutes of the last meeting be omitted.

The Chairman announced as the subject for the evening, the continuation of the subject of last meeting, viz: "Changes in Type and Treatment of Disease in the Last Thirty Years," and called upon Dr. J. C. Peters to finish

the paper, of which he had read a portion at the last meeting of the Section.

Dr. Peters said that among the many causes to which have been attributed a change in the type of disease were the great famine in Europe, which introduced the typhoid element, the great epidemics of cholera, the weather, and the treatment of disease. Dr. Peters read a carefully-prepared paper, giving many statistics, and illustrating the effect which each of these causes has had upon the type of disease. The effects were marked and undeniable, but, he believed, not permanent; and it is his belief that there has been no permanent change in the type of disease, with the possible exception of scarlet fever. Under the same conditions and treatment the type of disease remains the same. Treatment of disease had, however, during the last thirty years, changed very much, and the change was due to an advance in knowledge. The average practitioner is a better diagnostician to-day than he was thirty years ago. Blood-letting and the excessive use of mercury have been discontinued in diseases of an asthenic type. Opium treatment in inflammatory diseases has been introduced. Dr. Peters, many years ago, called the attention of the profession to the fact that drunkards seldom died of phthisis, but that, in the great number of autopsies he had made of this class, many old cicatrices were found in the lungs. Since that time alcohol has been successfully used in the treatment of phthisis. Some of the old, discarded remedies are being revived—notably, blood-letting and the use of calomel in large, so-called sedative doses. Homœopathy had the effect of developing the expectant plan of treatment.

Dr. J. Lewis Smith agrees with Dr. Peters that, on the whole, medical men are better diagnosticians than they were formerly, and that they have a more thorough knowledge of pathology, and give more careful and accurate descriptions of disease; this has led to changes in names. True, croup he does not believe to be more prevalent now than formerly, but thinks some of that which is called croup at present, is diphtheria; and thinks the two diseases to be entirely distinct. Within his experience the type of disease has not changed.

Dr. Messenger stated that in his time he had not seen much change in the type of disease.

Dr. H. P. Farnum, referring to the revival of old reme-

dies, said he had found that the sedative dose (3ss.) of calomel was not followed by catharsis, and asked what the experience of members of the Section had been in that particular. The remarks of several members, in reply to Dr. Farnum's question, indicated that the exhibition of thirty or forty grains of calomel is usually followed by free catharsis.

Dr. A. S. Church remarked that the theory of change of type in disease from the influence of epidemics he believed to be untenable, but would attribute more of the apparent change to the different modes of living and surrounding circumstances, and to the different methods of treatment adopted. In addition to the causes which had influenced treatment, already mentioned by Dr. Peters, he thought public opinion might be mentioned, and especially in regard to blood-letting, which, he thought, ought sometimes to be resorted to when it was not. He did not believe that there had been any change in the type of disease, but that under the same circumstances it would always present the same symptoms and require the same treatment.

Dr. Kennedy thought blood-letting was abandoned, because of homœopathy, and ought to be revived. He did not believe there had been a change in the type of disease. Cholera is, and always has been, the same.

The Section then adjourned until the call of the Chairman, when Prof. J. Lewis Smith, M. D., has consented to read a paper, the subject to be announced in due time.

Treatment of Fractures of the Clavicle.

L. A. DUGAS, M. D., LL. D., Professor of Surgery in the Medical College of Georgia, gives the following method in the New Orleans *Medical and Surgical Journal* :

After carefully reducing the displacement of the fragments, by bringing the elbow of the injured side against the thorax, and forcing it up so as to carry the shoulder upward, backward and outward, and also acting, if necessary, upon the fragments directly, the next step will be to secure the limb in this position. For this purpose, procure a square yard of unbleached shirting (this being softer than bleached fabrics), and cut it diagonally in two so as to obtain a triangular bit, to the acute angles of

which should be sewed strips of the same material, three inches wide and from two to four yards long, according to the size of the patient. Apply the middle of the base, or long side of the triangle, beneath the elbow as it rests against the chest, having a margin of about four inches behind, and carry the obtuse angle toward the fingers. One of the acute angles, with its strip, will now be carried between the arm and chest, up to the fractured clavicle, around the back of the neck, over the sound shoulder in front, and beneath the axilla, and finally around the chest, including the arm just above the elbow. The other end of the strip should be then carried in front of the fore-arm, up to the sound shoulder, behind and beneath the axilla, and around the chest and arm, so as to meet its fellow and be tied to it. Finally, the margin left projecting behind the elbow, should then be elevated, doubled and so secured with stitches, as to prevent the elbow from sliding out of the sling in that direction. The portion of the triangle situated along the forearm should be also folded around it, and thus secured. Lastly, the strips encircling the chest and arm should be stitched to prevent their upward or downward misplacement. If it be necessary to press down one of the fragments, this can be effectually done by interposing a small pad or compress between the bone and the bandage which passes over it. It is scarcely necessary to add that the precise order in which the roller bandage is applied may be varied to suit the views of the surgeon.

The advantages of this bandage are found in its perfect adaptation to the necessities of the case, in its great simplicity, in the facility with which it may be made secure, and in the very slight inconvenience to which it subjects the patient. Children as well as adults bear it without a murmur, and, if it becomes necessary, for the purpose of cleanliness, to remove it, any intelligent mother or nurse may reapply it if the physician is not accessible. While it can not be denied that under any plan of treatment, there may occasionally remain some unevenness or deformity at the seat of fracture, I must say that I rarely have seen anything of the kind in cases treated on this plan, notwithstanding the fact that I have, not unfrequently, after applying the bandage over in presence of the mother, left the subsequent management entirely to herself.

The Treatment of Hemorrhoids.

Dr. F. P. Atkinson says in the *Practitioner*, August, 1879:—A good deal has of late been written with respect to the operative treatment of hemorrhoids, and I think in this way attention has perhaps been diverted from the use of topical applications. Of course local treatment by itself is of little use, inasmuch as while the cause remains any benefit that may be obtained can only be partial and temporary. As far as I can see, hemorrhoids are to be divided into three classes; namely, acute, subacute, and chronic, according to the symptoms and time that they have existed, and the treatment has to be adapted to the stage in which they are presented to our notice.

In the acute stage they are inflamed, of a dark red appearance, and give rise to a throbbing, burning pain, or like that which would be produced by the application of a red-hot coal. Mr. Biddle, a fellow-practitioner, tells me that in this stage the effect of calomel-dusting is something wonderful, and that relief is more quickly gained from this than anything with which he is acquainted. He considers that it acts in a twofold manner; namely, upon the liver, and at the same time as a local sedative. Sponging, also, with hot water gives a good deal of ease.

If this treatment prove inefficient, and the pain be very excessive, leeches may be applied to the anus, or an incision made into the center of the swelling and the contents squeezed out.

In the subacute stage the feeling complained of is more that of weight and tension, though on going to stool the pain is often very acute.

To relieve the existing condition, the compound gall ointment or a solution of acetate of lead and opium should be freely and frequently applied, and an enema of cold water used after each action of the bowels.

In the chronic stage the best application is the common pitch ointment. For this useful piece of knowledge I am indebted to a Mr. Corbett, and he, it appears, got the hint from an old nurse by seeing her apply some tarred rope. Its astringent effect is something remarkable, and I know of nothing which acts so quickly and effectually.

The general treatment has to be directed toward altering the particular mode of living which has brought

about the abnormal condition. Hence all luxurious and sedentary habits, hard riding, venereal excesses, the use of aloetic purgatives, should be forbidden; whilst the object of the *medicinal treatment* should be to keep the bowels freely relieved and lessen as much as possible portal congestion. Dr. Young, of Florence, wrote a paper in the *Practitioner* of January, 1878, upon the use of glycerine internally in these cases, but I do not think it has any specific action upon the hemorrhoids themselves. The improvement which he says takes place is, I fancy, in all probability, simply due to an increased action of the bowels which it produces. Confection of senna is a particularly useful, and by no means unpleasant, aperient in these cases. I would, however, rather suggest the use of a euonymin pill occasionally at night, with a dose of effervescing Carlsbad salts in the morning, as these have a direct effect upon the portal circulation. In conclusion, I would remark that I can not speak too strongly with regard to the effects of the pitch ointment, for I feel certain that the necessity for operative measures may often be prevented by its timely use, and I would recommend every one to give it a trial where the compound gall ointment is ineffectual.

MICROSCOPY.

Tertiary Syphilitic Ulceration of the Ileum.

F., FIFTY-ONE years old (counselor), had been healthy, with the exception of syphilis, until six months before his entrance into the hospital. At about that time he felt a weakness in the lower extremities, especially the right, and fatigue in walking. The appearance of locomotor ataxia developed more and more, and this caused him to go into the hospital. At his entrance he was found to be robust, well nourished, with scars of mucous patches on the lips, psoriasis palmaris, and in the right groin scars from ulcerations of the glands.

The digestion was pretty good, stools not bad, no pains in the intestines. On the whole, the case appeared like one of locomotor ataxia.

The treatment against the syphilis was decided, and

iodide of potassium and Zittmann's decoction were prescribed; but the patient was scarcely put upon this treatment when he suddenly died. The *post-mortem* examination showed the following condition of the intestines; "All the layers of the intestines, from the lower part of the jujunum up to the ileo-cæcal valve, corresponding to Peyer's plates, were pervaded by a gray, reddish mass, which had on these parts a parchment-like feeling; the folds of mucous membrane were broader than normal, stiff, not expansible. In the middle of this infiltration an ulcer was found, of polygonal shape, and of the size of a small silver three-cent piece (kreutzer), parallel to the longitudinal axis of the intestine. The base of this ulcer is formed of the thickened, smooth, fatty-looking submucous layer, the borders of which are flat but sharply marked. The peritoneum is here covered with a tender pseudo-membrane and pervaded by enlarged lymphatic vessels, filled with thick yellowish-white lymph. "Between the vessels were to be seen numerous little knots, of different sizes, which were in communication with the lymph vessels. The lymphatic glands of the mesentery were slightly rough and swollen. In the cavity of the intestine were bile-colored pulpy fæces."

MICROSCOPIC APPEARANCES.

"We found a very abundant growth of round, tender cells, which were partly filled with fat; these after the addition of acetic acid showed several granules. The growths embrace the normal mucous membrane, extend through all the layers, especially the submucous connective tissues, and these, as well as the crypts of Lieberkuhn, well preserved, were filled with detached epithelium.

"On the ulcer found in the center of the infiltration the intestinal villi were very imperfect or missing entirely.

"On the smooth, fatty base of the ulcer *we saw numerous round cells imbedded in the tissues. The same growth of cells was also present in the muscular structure, in which the cells were imbedded between the muscle fibers which separated them.*

"On some parts of the preparation (microscopic) aggregations of cells which had separated the muscle fibers had changed to a molecular mass."

"Upon a cross-cutting of the thickened peritoneum,

besides enlargements of the thick-walled vessels and round cells, distributed especially around the vessels, we found also heaps of cells which seemed to be surrounded by a firm membrane."

"The cross-cut of such groups of cells were mostly circular, and showed a space filled with round cells of the same size, which space was marked off from its surroundings by a sharp line. *These were taken to be sections of lymphatic vessels.*"

"Upon the longitudinal cut (especially in places where the enlarged lymphatic vessels and the small knots above described could be seen with the naked eye) were seen frequently *heaps of cells surrounded by a sharp line. These heaps of cells took in the whole field of the microscope and were in connection with the lymph vessels. We saw both afferent and efferent vessels, filled with the same cells which formed the contents of the little knots visible to the naked eye.* Here we have the history of a well-marked example of the so-called tertiary period of syphilis, or the period of gummy products. These products on a *post-mortem* examination are found distinctly associated with an ulceration in the intestinal canal, characteristic of syphilitic action. Infiltration of round cells (gummy products) submucous and muscular tissues, stiffening the structures so as to produce distinct induration, separating the bundles of muscular fibers until they become reduced to the appearance of a molecular mass, practically a necrosis. *Lymph vessels so distended with cells that a knotted appearance indicates the pressure to which they have been subjected,* and reveals the fact that a localized obstruction to the return of lymph through its natural channels, has occurred—vessels filled almost to bursting with a yellowish fluid lymph, and cells (gummy material?); and why? What has caused this obstruction of lymph channels and evident loss of substance, by interference with the nutrition of the parts? The microscopic examination fell short of an inquiry into the *causes* of the obstruction. The tissues of the vessels were not subjected to any test or examination to see how the structure of the walls differed from that of normal lymphatic canals. The observer was content to show us that the damage probably resulted from interference with the lymph circulation; for it is evident that if these vessels (whose office is to return to the general circulation the

lymphatic elements exuded in excess of the necessities for growth and repair) had been patent, the accumulation could never have occurred. This case carefully and ably investigated, in its gross as well as in its microscopical features, with no possible suspicion attaching which could indicate on the part of the distinguished narrator of the case the endeavor to form or bolster up a theory, has been shown to be a case of lymphatic obstruction, so associated with a lesion of tertiary syphilis (so called) that it will be difficult to resist the conclusion that the characteristic ulceration (lesion) was caused by that obstruction.

With these palpable indications of the manner in which the so-called gummy products have been localized in the present instance, shall we fall back upon the local presence of the traditional *virus* to account for the contractions of the lymph vessels? Shall we not rather claim of the renowned scientists who have already accomplished so much in the philosophical interpretation of general pathological and physiological processes, that they shall afford us a reasonable explanation of the gummous material—a material which is known not to differ in the least degree from normal germinal material—and a reasonable explanation for the manner of its accumulation in the tissues in so-called tertiary syphilis. In the absence of other cases similar to the one just presented, and with the probabilities that absence is to be accounted for simply by neglect to look for and investigate, this case, presented by a competent and presumably honest observer, must be accepted as representing facts which may be significant as to what occurs in all collections of “gummous material”—facts which are important as possibly affording an explanation of the hitherto mysterious lesions of so-called tertiary syphilis.

It appears to me that a review of the facts and arguments going to show that the lesions of the so-called tertiary period of syphilis are not the results of the local action of a virus, but are caused through damage to lymph channels in the active period of syphilis, which finally results in this contraction, thus causing obstruction to the passage of lymph and cells, and accumulation of that material at various points; these, together with the case cited, I think, warrant me in terming the period above referred to as the *period of lymphatic obstruction*.

Meeting of the Rochester Microscopical Society.

THE regular monthly meeting of the Rochester Microscopical Society was held in the lecture-room of the Free Academy, President Lattimore in the chair. The minutes of the previous meeting were read by Secretary Line and approved.

The paper of the evening was then read by Ed. Bausch, the subject being "The Microscope and its Parts." The following is the paper in full:

We all know the derivation of the word microscope, but few of us perhaps have dwelt long upon the thought of what it actually is. From our first acquaintance with the compound microscope we have the impression that it is composed of several mechanical and optical parts, the latter of which give us highly magnified images, and sometimes forget that the latter really only form the microscope. In its modern construction it is composed of an eye-piece and objective, having correlative distance and combined by a tube, while the stand or mechanical appliances are merely accessories for the easier attainment of the work.

In general parlance, I see no reason why we should not call the entire instrument a microscope; but take from it its optical parts and we have then simply a piece of good or bad mechanical ingenuity, as the case may be.

I will devote my first attention to the stand.

The first requisites in it are stability and entire freedom from liability to vibration. The proportions and weights of its parts should be such as to bring the center of gravity as near as possible to the base, so that, with or without inclination of the body, it will remain steady. The bottom of the base or foot should not present an unbroken surface, as with this it is evident that when it comes in contact with an uneven surface it becomes unsteady. The modern and certainly only true form is to have three projections, which present the only points of contact. I would advise those having instruments with flat base to cement to it at proper distances three rubber pads. I prefer rubber as in case of a slight tremor the vibratory motion is transmitted to it, while the stand remains steady.

Whatever is the form or construction of the stage, it should be able to bear the slight pressure used during

manipulation. No stage has yet been made which, under sufficiently high magnifying power, can not be shown to give way under a strong pressure. In many stands this quality serves the purpose of a fine adjustment.

The coarse adjustment or quick motion is gained by sliding tube, screw arrangement and rack and pinion, the latter of which is the favorite form in this country.

The fine adjustment or slow motion is constructed in various ways, but, no matter how, it should be faultless in its work. Nothing exasperates more and proves a greater hindrance to good work than a poorly-made fine adjustment. The form which varies the distance between eye-piece and objective, will, I think, become obsolete, as it should. We all know that any change in the length of the tube causes a difference in the magnifying power, and it is evident that when this principle is involved in the fine adjustment it makes it unreliable for accurate measurements.

In the first construction of the microscope the eye-piece and objective consisted each of a single lens. As it gradually developed, the Huyghenian eye-piece, which had previously only been used with the telescope, was successfully applied to it, and the application of achromatism to the objective finally gave it the construction which, with modifications, characterizes it to-day.

It is a fault to suppose that the rating of objectives has any connection with working distance, angular aperture or diameter of front lens. It merely indicates the equivalent of a single lens having the same magnifying power. For instance, an objective marked one-half inch magnifies, or should do so, the same as would a single lens having this focus; but it is one of the "tricks of the trade" not always to hold to this rule. Some opticians have a habit of marking objectives less than their actual value, such as marking an objective one-quarter which really has the power of a one-fifth or perhaps a one-sixth. Other conditions being the same, it is evident that these objectives will have the advantage in comparison with one which is correctly marked. In the comparison of objectives, it should, therefore, be one of the first considerations to determine by measurement the actual magnifying power of each.

Working distance signifies the space between the cover and the metal projecting over the front lens. In the low

powers it is of minor importance. In the higher ones, however, it is a greater factor in making a successful objective. It is a fault that many objectives, especially of Continental make, have a superabundance of protective metal, and thereby rob a quantity of working distance.

We all know what a diversity of opinion exists on the question of angular aperture, and even on the actual meaning of the word. The old definition represents it as the angle formed by the extreme rays that pass through the objective. The newer, and, I think, correct one, is to take the angle formed by the rays that give a distinct image. There is quite a difference between these two definitions. For instance, suppose that the front system in an objective has a larger diameter than the formula calls for. A larger number of rays will enter it than the posterior systems can transmit to the eye-piece. These extra rays give what is called diffused light, and as they do not assist in forming an image, they are practically worthless. If we use a properly constructed eye-piece, we will get a small, sharp picture, and by revolving the mirror obliquely until it (the picture) disappears, we get the impression that this is the aperture, whereas, by using a Huyghenian eye-piece, we find that we will have to turn back the mirror in order to get a distinct image. The most obliquity of the mirror, which gives the image well defined, and not blurred, is evidently the angle which transmits the useful rays.

There is an idea prevalent among many microscopists that the angular aperture of an objective has an influence on the size of the field—that is, the larger the angular aperture the larger will be the field. Now, this is not the case. The diameter of the field is limited entirely by the eye-piece, or rather the diaphragm in it, and has no connection with the aperture of the objective. Neither is it, as is often supposed, in an inverse ratio to working distance. You can construct a one-inch objective of thirty degrees angular aperture, which has three-fourth inch working distance, and another of the same aperture with only one-eighth inch working distance. With higher powers this holds better, but does not become a rule.

For many years there has been, and will be for a long time to come, a conflict between the adherents of large and small angle objective. In my opinion both parties are too absolute, and lose sight of the fact that each

kind has its advantage. I will state here in parenthesis that when I say small angle I do not mean the imperfectly constructed objectives that rely upon the small diaphragm behind the systems for an approximately good result. I do not think that the partisans of large angles can righteously condemn the others when they consider that they owe a large part of their interest in and knowledge of microscopy to the latter. They forget the fact that these objectives are to-day disseminating a knowledge among students, including the large class of amateurs, which can not be disdained. On the other hand, the other party does not acknowledge that large angles are absolutely necessary for certain classes of work.

On this point I stand at utter variance with the authors of standard works, such as Carpenter, Beale, and others. The former does not recommend large angle objectives even on diatomaceæ, but thinks they may be advantageous, and for every other class of work advises only small angles. He reasons thus: because the greatest amount of work and most discoveries have been made by the latter, these only should be used; whereas, there is no doubt, that if at the present day objectives of larger aperture had been used, the result would have been gained much sooner and easier.

I will mention a few optical facts which may help to give a better understanding of the subject, and show the difference between the two.

It is generally accepted that a small angle objective has penetration; that is, the faculty of looking into an object, while the large angle has resolving power; that is, telling with extreme distinctness the particles that are in focus. In practice, however, this is not always the case. For although an objective may have a large angle, it may be, and often is, so imperfectly constructed that the other may excel it in every quality. On the other hand, besides the faults that the other may have, a small angle objective may be made by decreasing by diaphragm that of a large one and still not acquire penetration, for it is apparent that the course of the rays will be the same whether the diaphragm is there or not. However, in well-constructed objectives this is the rule, and to make it understood we will take two objectives of the same power and best possible construction—for instance, one of 50° , another of 150° . We will suppose that the front surface

of these objectives are covered by opaque plates, each of which have but one small opening. As we have presupposed the apertures, it is evident that the angles formed by the extreme rays of the cones that enter at these points will respectively be the same as those mentioned. Rays beyond these angles will also strike the surface at these points, but as they will not be transmitted to the posterior systems we need not consider them. From these two points draw segments of circles having for radii the distances to different points of the object, from which rays emanate. It is noticeable that the zones of the small angle objective are close together, and therefore take in almost every part of the object, whereas in the other this is not the case. By moving the incident points to different parts of the surface the same formation of rays will take place, and if the opaque plate be removed they will enter the entire surface under the same circumstances.

This is not a mathematical solution of the question, but will serve to show why a small angle objective will show at the same time parts of an object which lie at different depths, or has penetration.

We all know that, after we have viewed a transparent object with central or axial light, and then use oblique light, we can see its parts with greater distinctness, or if we are not able to judge the structure of an object with central light, oblique light will often enable us to do so. This principle is involved in objectives having large angular apertures, or so-called resolving power. In these objectives rays will enter at a greater obliquity than is the case in one of small angle, or take for illustration an object having semicircular projections. The rays from the portions lying nearer the bases will give a sort of side view of these parts, which, in conjunction with the front view, will naturally give a more distinct image than can those giving a front view only. They will therefore show with central light what a small angle can only do with oblique light, and using the latter the result is far superior than the other can give under any circumstances. Besides this, they have the advantage that the light can be thrown to a comparatively greater obliquity, and as every additional degree assists in giving greater resolution—presupposing that the corrections

keep step—to the same extent will the greater obliquity show the increased contrast between light and shade.

This property in large angle objectives will also serve to explain why they will bear more amplification. A number of rays are lost by refraction and absorption as they pass through the eye-piece, and this loss increases with the power of the latter. As there are a large number of rays transmitted from the same point in a large angle, a loss of some of them in a strong eye-piece will not seriously impair a sharp image, while, on the other hand, in the other objectives, a loss of the same number will be proportionately much larger, and, leaving but a remnant to form an image, this will be indistinct, or, as it is termed, the objective will “break down.”

There are many to-day who ridicule the idea of using a large angle objective on anything else but diatoms. There is no question about the fact that if an objective will show well the markings on a diatom, it will do the same on any other object. It simply remains to be shown which is best adapted for a certain purpose, and in this every microscopist must depend upon his judgment to a certain extent, and to do so he must understand the principles involved.

The entire controversy can be presented in a few words. A small angle objective gives large working distance and penetration; one with large angle has shorter working distance and resolution. (I am still assuming the best possible construction in each.) The first allows the examination of an object with little or no adjustment; the second shows the same with greater distinctness, but requires the adjustment to different layers. The former, with the same power, has greater working distance, and in higher powers is easier to manipulate.

GLEANINGS.

CROUP—THE BARKER TREATMENT.—Dr. W. C. Chapman (*Toledo Journal*) reports five cases of croup, four of which ended in permanent recovery; the fifth recovered from the croup, but died in two weeks from pneumonia. The treatment was thus introduced by Fordyce Barker, ten years ago, which consists in an emetic, preferably of “Turpech mineral” (2–5 grains); veratrum viride, till pulse is

reduced to 60, where it is to be kept (two drops every hour is the usual dose); quinine, in tonic doses.

Dr. Chapman is to be congratulated on his success; and we are especially glad that he has reported the cases, since, from his well-known ability as a skillful diagnostician, an expert microscopist, an accomplished pathologist, and a thorough scholar, his report can not fail to carry conviction. As no membrane was found in two of the cases, and as the presence of membrane even is by no means pathognomonic of true croup, it is probable that, had some less eminent practitioner made the report, most of the cases would have been regarded as of *spasmodic laryngitis* merely; since, as Prof. Smith so truthfully remarks in his work on diseases of children, "there can be no doubt that many of the cases which physicians have published in medical journals as true croup were examples of spasmodic laryngitis."

A REMEDY MAKING SPECTACLES UNNECESSARY.—Dr. W. Cheatham writes to the Louisville *Medical News* that he has found that the use of sulphate of eserine makes it unnecessary to use spectacles in case their use is called for by a flattening of the cornea from old age—a very common ailment, called presbyopia. He states that this drug possesses the property of acting especially on the ciliary muscle, and contracting it, which contraction increases the convexity of the cornea. He recommends dissolving 15 grains of sulphate of eserine in one ounce of water, and putting one drop in each eye at bedtime. It produces at first the opposite defect—a too great convexity of the cornea, which is called myopia, or near-sightedness, which however, soon passes away.

He thinks the use of this remedy perfectly safe, and also adapted in cases of glaucoma and other inflammations of the eye, in cases of weakness resulting from overwork, general debility, diphtheria, etc. He says that notwithstanding the use of spectacles in cases of presbyopia gives comfort to the eyesight, there is also, however, always some trouble connected with them, which patients are often anxious to dispense with, and thinks they should be humored in this respect. We are of this opinion, also, but advise caution in using this new remedy, because, as the effects are only temporary, a continuous use is of course intended, and experience has not yet shown what

secondary effects may result from often repeated applications.—*Manufacturer and Builder*.

RECTAL MEDICATION.—A new method, F. E. Stewart, P. H. G., M. D., in "*New Remedies*" for December, proposes the oleates for rectal medication and the rectal capsule, or cylindro-conical case of gelatin (suppository-shaped) as a vehicle. This vehicle, he says, is entirely unaffected by the heat of any climate, and yet is very soluble in the secretion of the rectum. The facility and rapidity with which the oleates are absorbed, has been abundantly verified, since they were first brought prominently into notice, by Prof. Marshall, in 1872. Some of the advantages of the capsule enumerated, are—that it is ready for use immediately; that it liberates its contents in the rectum in three minutes after introduction; that it does away with the necessity of rectal injections, which, by their amount, provoke the natural irritability of the rectum, often causing their expulsion, and also with the necessity of suppositories, the fat of which coats the bowel, and greatly retards absorption, as Dr. Ellerslie Wallace has proven. The medicine employed may be equally diffused in the oleic acid, if irritating; if it be mild and in the form of powder, soluble, or with an active principle soluble in the rectum, it may be placed dry in the rectal capsule, for immediate insertion. The author states that this method has been thoroughly tested in private and hospital practice in New York and Philadelphia.

THE BRAIN OF A PORPOISE.—Dr. E. C. Spitzka exhibited the brain of a porpoise with a view to the correction of certain errors that had been committed relating to the region in the brain which is supposed to preside over function of speech. It had been maintained for a long time, by some medical writers, that the island of Reil was larger in man than in any other animal, and, also, that it contained a greater number of convolutions, and for that reason the function of speech should be located there. But the reasoning was opposed by the facts. In the hippopotamus the development of the island of Reil was so great that, according to the theory, the animal should be outfitted with complex symbols, if not gifted with the power of speaking. The island in the hippopotamus was homologous to that in the horse, and the human and equine corresponding, it must be homologous to that in

the human brain. Now, in the porpoise, the island of Reil had four times as many convolutions, and was twice as large as that in man, and was completely covered with by the operculum and temporal lobe. In the latter respect it corresponded to the anatomy found in man and the anthropoid apes.—*Med. Record.*

DR. HARRIS FISHER, of Eastman, Georgia, says: The Alum and Iron Mass from the Bedford Virginia Springs has been thoroughly tried by me. In the obstinate, poverty-stricken condition of the blood, it has succeeded in bringing about a favorable change, in less time, and far more pleasantly to the patient, than anything ever used in a practice of twenty-three years, either vegetable or mineral. I have often, at great expense, supplied my patients with the truly elegant elixirs and fermented wines of the best pharmacists in the country, with no other results than making their head ache, and irritating the digestive organs. I have yet to find the man, woman, or child who could not take with impunity the alum and iron mass, properly diluted with water. As a mere appetizer, it is in my experience unequaled, being the only medicine I ever used that would unmistakably improve the appetite after one day's taking. I have used it with decided benefit in chronic womb affections attended with more or less anæmia. I shall begin at once to try its effects in secondary syphilis attended with a general broken-down condition of the system, and I confidently expect the best of results.

HORLICK'S FOOD.—We recently used "Horlick's Food" in several cases of infant diarrhea and mal-nutrition of children, with results that prove it to be a perfect infants' food, and made in full accordance with the laws governing assimilation in early life. There are, perhaps, few conditions that call for more careful judgment than the substitution of some article of diet in cases of deficient breast milk. Preparations are still flooding the market, claiming to be properly adapted to the infant stomach, which nevertheless contain more or less starch—a detrimental ingredient usually, and one which seldom fails to disorder the digestion, and cause wasting and diarrhea. Horlick's food is entirely free from starch, the flour having been changed into dextrine and grape sugar. This food has long borne a high name, and we take pleasure in adding our testimony

to that of so many physicians throughout the country as to its excellent digestive and assimilative properties. It is recommended in dyspepsia of adults, and in all diseases where digestion has been impaired.—*San Francisco Western Lancet*.

PRESERVATION OF DISSECTING MATERIAL IN LONDON.—The *British Medical Journal* of October 11th gives an interesting sketch of the methods of the preservation of subjects in the London dissecting-rooms. At Guy's the subjects are injected by the Howse method, with glycerine and arsenic, but are afterwards put into a carbolic acid solution. At St. Mary's, the injecting material is composed of vermilion, arsenic, plaster of Paris, and size. At Middlesex Hospital, arsenic in a solution of carbonate of potassium was used, the subjects being afterward wrapped in carbolic acid cloths. At University College, carbolic acid in glycerine is the injecting material. In other schools, chloride of zinc, bichloride of mercury, arsenite of sodium, arsenic, creasote and soda, etc., etc., are used in various combinations. Not one of these schools, however, makes use of a solution of chloral, as first used by Dr. Keen, of Philadelphia. This is an economical and perfectly satisfactory method of preservation. Under its influence, subjects not only remain sweet for weeks, even in warm weather, but the muscular tissue retains its normal flexibility and brightness of color.

HOW TO GARGLE THE THROAT.—Dr. Lowenburg recommends the following method of gargling the naso-pharyngeal cavity. The patient inclines the head horizontally backward, and performs movements which we may call "quasi-deglutition," not including the last portion of this physiological action, definite swallowing. The liquid is passed much higher behind the soft palate than the ordinary method of gargling will permit. Some persons succeeded so well in this manœuvre that they are able to eject by the nose the liquid which has been received by the mouth. Moreover, these rapid muscular contractions completely detached the abnormal secretions, which can then be easily expelled, and the greatest possible relief is thus given to the patient. Another method is to fill the mouth with the tongue; this confines the gargle to the pharynx. The head should then be bowed in a for-

ward direction until the top of the cranium is its lowest portion. In this position the gargle will not only wash the roof of the pharynx—giving a sort of sitz-bath, as it were—but if the patient have caught the trick, will flow forward through the nose.—*Boston Med. and Surg. Jour.*

TREATMENT OF ROSACEA.—Mr. Broult gives the treatment of this affection as practised by M. Hillariet for the last eight years. In the morning he causes the face to be washed with very warm water, or a vapor douche to be directed against the same, for four or five days in succession. In the evening the face is bathed with the following solution: distilled water, 250; sublimed sulphur 30; and camphorated alcohol, 8, 10, 12, or 15 grams. In some cases a little ether is added with benefit. The light deposit of sulphur and camphor is left upon the skin until morning, when it is washed off, and the following ointment is applied. To soften the skin: lard, 30; oxide of zinc, 2 or 3 grams. Improvement is noticeable on the fourth day in a diminution of the pimples and redness, but treatment is continued for two or three months, and until complete disappearance of the redness. Subsequently the skin should be washed twice a day in warm water.

PILL COATING VS. ALBUMEN AND SUGAR.—Pills sufficiently firm and dry should be rolled between the finger and thumb with sufficient white of egg to give them a thin coating. They should then be placed with finely powdered white sugar in a suitable vessel and rotated. The coating looks well and has a pleasant taste.

By practice, pills may become beautifully coated with sugar by the following process:—Pills well dried on the surface are placed on a tinned copper bowl with a flat bottom, or an enamelled iron dish, the surface of which has been moistened with syrup or syrup and gum. They are then rotated and gently heated, very finely powdered, sugar being dusted on, and the motion kept up till a perfectly dry, hard, and whitish coating is obtained, the operation being repeated if necessary. The first attempt is generally a failure, but practice is the only secret.

CHARCOT ON LARYNGEAL VERTIGO.—*Prog. Medical*, No. 17, 1879.—Under the above name Charcot embraces peculiar morbid appearances, which announce themselves in

the following manner: On the development of a peculiar tickling sensation, which excites coughing, and has its seat in the larynx, or in the upper divisions of the bronchi, the patient falls to the ground with loss of consciousness. In some cases clonic spasms of the muscles of the face or extremities also occur. The unconsciousness is only of short duration, vomiting, biting the tongue, and similar post-epileptic manifestations are not at all, or only exceptionally, observed. In connection with the above, Charcot recalls attention to a case published by Sommerbrodt, in *Centralblatt*, S. 943, 1876, of a great fibroma of the larynx, as a cause of epilepsy.—*Centralblatt*, October 18.

SUPPOSITORIES IN VAGINISMUS.—R̄ Ol. theobromæ, ʒi; potassii bromidi, gr. x; ext. belladonnæ, gr. vi; acid. thymici, gr. i.—M. Fiat in suppositor, no I. To be placed in the vagina every evening.

BOOK NOTICES.

A MANUAL OF PATHOLOGICAL HISTOLOGY. By V. Cornil, Assistant Professor in the Faculty of Medicine of Paris, and L. Ranvier, Professor in the College of France. Translated, with Notes and Additions, by E. O. Shakespeare, A. M., M. D., Lecturer in the University of Pennsylvania, and Ophthalmic Surgeon and Microscopist to the Philadelphia Hospital, and J. Henry C. Simes, M. D., Demonstrator and Lecturer on Histology in the University of Pennsylvania. 360 illustrations on wood. 8vo. Pp. 784. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co. Price, \$6.50.

The authors state that the object of the publication of the work is to present a brief, elementary, and succinct explanation of the descriptions, definitions, and classification of morbid products as seen under the microscope. They say that they did not give it the name of *Pathological Anatomy* because it is based entirely upon normal histology—a department of medical science from which we have borrowed both classification and methods.

This will be found an exceedingly interesting and valuable work by all who are engaged in the study of, or take an interest in, histology—normal or morbid. The material which was utilized for its preparation was derived from

autopsies and operations in the hospitals of Paris, which are so very rich in it. Nothing was taken for granted, but everything verified by microscopical investigation by the authors themselves in their own laboratories, assisted by their pupils. As an aid to microscopists in their investigations it will be found invaluable—in fact, the very best with which we are acquainted. Although Frey's Histology was especially written for those engaged in microscopical investigations, we prefer this one.

The first chapter comprises a general examination of the constitution of cells and of normal tissues. In succeeding chapters the normal histology of each organ is rapidly given, illustrated by well-executed cuts, and then the study of its pathology is entered upon.

The authors disclaim allegiance to any school—*German* or *French*. They say that they are opposed to such divisions, science being a unity indivisible as truth.

LECTURES ON DISEASES OF THE NERVOUS SYSTEM. Delivered at La Salpêtrière. By J. M. Charcot, Physician to La Salpêtrière, etc., etc. Translated from the Second Edition by George Sigerson, M. D., M. Ch., Licentiate of the King's and Queen's College of Physicians, etc. With Illustrations. 8vo. Pp. 270. Philadelphia: H. C. Lea. Cincinnati: R. Clarke & Co. Price, \$1.75.

The Lectures of Prof. Charcot on "Diseases of the Nervous System," hold a high position among the classic works of medical literature, and have been translated into several Continental languages. Of the French physicians none hold a higher position than he does, and none are more esteemed by English and American students who visit Paris for instruction. We have no doubt the present work will be hailed with much pleasure by the very many who have been taught by the distinguished author.

The Lectures are divided into three parts. Part I., containing four lectures, is devoted to "Disorders of Nutrition, consequent on lesions of the brain and spinal cord." Part II., having also four lectures, treats of "Paralysis Agitaus and Disseminated Sclerosis." Part III. treats of "Hysteria, Hysterio-Epilepsy."

Our space will not permit of our presenting anything like an extended outline of the work, or giving in detail any of the subjects discussed in some of the chapters.

We can only mention that Part I., taken alone, treating of the disorders of nutrition consequent on lesions of the brain and spinal cord, is quite entertaining, and will well pay perusal. Says M. Charcot: "Lesions of the cerebro-spinal axis frequently react upon different portions of the body, and produce there, by means of the nerves, various disorders of nutrition. These secondary affections constitute one of the most interesting pathological groups, and I shall, therefore, devote several sittings to tracing out for you the principal features of their history."

A MANUAL OF AUSCULTATION AND PERCUSSION: Embracing the Physical Diagnosis of Diseases of the Lungs and Heart, and of Thoracic Aneurism. By Austin Flint, M. D., Professor in Bellevue Hospital Medical College. Second Edition. Revised. 12mo. Pp. 240. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co. Price, \$1.63.

The works of Professor Austin Flint are too well known in this country to need any special commendation. A close, analytical, and conscientious observer, and of sound judgment, his teachings are valuable, and are sought after. All of his works are popular in the profession, and have met with a large sale.

The little work before us has already become a standard one, and has become extensively adopted as a text-book. There is certainly none better. It contains the substance of the lessons which the author has for many years given, in connection with practical instruction in auscultation and percussion, to private classes, composed of medical students and practitioners.

AIDS TO ANATOMY. By George Brown, M. R. C. S., L. S. A. Late Demonstrator of Anatomy at Westminster Hospital Medical School, etc. Fourth Thousand. New York: G. P. Putnam's Sons. 18mo. Pp. 64. Price, 50 cents.

This little work is made so that it can be carried in the pocket of the medical student in attendance upon lectures. Of course it is not to take the place of large works like Gray, etc., but merely to furnish such matter which the student is expected to know by heart in order to pass the examinations. It is very well suited for the purpose for which it is designed.

THE TRANSACTIONS OF THE AMERICAN MEDICAL ASSOCIATION.
INSTITUTED 1847. VOLUME XXX.

The proceedings of the meeting of the American Medical Association held last year in the city of Atlanta, Ga., May 6th, 7th, 8th and 9th, with the addresses delivered and papers read, appear now in a large volume of over a thousand pages octavo.

The papers which were read were quite numerous, and the most of them of sterling merit. Indeed, this, the thirtieth volume, is of unusual value, and certainly worth much more than the annual due of \$5.00 of each number.

Dr. Lewis A. Sayre, of New York, was elected president for the ensuing year.

BRAIN-WORK AND OVERWORK. By DR. H. C. WOOD, Clinical Professor of Nervous Diseases in the University of Pennsylvania. 18 mo. Pp. 126. Philadelphia: Presley Blakiston. Cincinnati: R. Clarke & Co. Price, 50 cents.

This little work belongs to the series of American Health Primers. It is designed for the use of both physicians and laymen. It is the opinion both of medical men and intelligent persons outside of the profession, that the exigencies of modern life are producing an ever-increasing amount of nervous diseases. Dr. Wood discusses quite a number of the most common causes of nervous complaints, and explains how they are to be avoided. Besides that of overwork, he treats of indulgence in alcoholic beverages, tobacco, secret vices, exposure, dissipation, etc. The little book is quite readable and interesting. All will be interested in his remarks on rest in labor and rest in recreation.

ON THE INTERNAL USE OF WATER FOR THE SICK, AND ON THIRST. A Clinical Lecture at the Pennsylvania Hospital, October 25, 1879. By J. FORSYTH MEIGS, M. D., one of the attending physicians of the Hospital. 12 mo. Pp. 54. Paper cover. Philadelphia: Lindsay and Blackiston. Cincinnati: R. Clarke & Co.

The feeling with very many physicians, on reading the title of this little work, would be that they had no need of it, for that they knew all about the simple element of water. But we are quite confident that the

expression of every one, on rising from the perusal of it, will be, that he has been highly entertained and very much instructed. Simple as water may seem, and manifest as its uses are, yet this lecture will prove to very many, that there is much regarding its chemical, physiological and pathological actions, with which they were not acquainted.

EDITORIAL.

GENIUS.—There has been much discussion in regard to what constitutes genius, while many have denied that it has an existence at all. According to the understanding of some individuals as to what genius is, very many may be regarded as geniuses. Blind Tom, although an idiot, and, if he committed a crime, would not be held responsible by law, would be considered by such a genius in consequence of an extraordinary capacity to perform upon the piano. Also, the so-called lightning calculators would be so classed by them. Dr. Conolly says that a *few* are lifted far above the rest by the combination of general strength of the mental faculties, with transcendent power of one faculty in particular, and that *such a combination* constitutes genius. According to him there can not be many geniuses. An individual who has not sufficient intelligence to discriminate between right and wrong, however transcendent any one faculty may be that he possesses, can not be looked upon as a genius; nor can one who, although not an idiot, yet not above mediocrity in strength of other faculties, has capacity far above average men in some particular one. Nor is genius to be applied to those who acquire with much more facility than the generality of men do a certain proficiency in all that they undertake, but who never apply to any one thing so entirely as to do any good. Such are incapable of the continued application of the faculty of attention—the faculty being imperfect in them. They are, as the *Spectator* terms them, “so many unfinished pieces of nature wrought off in haste.”

The distinguished Burke fulfills Dr. Conolly's notion of a genius. In speaking of him he says: “He seemed to possess that power of universal acquirement which men

who delight in mental exercises often desire, but for which human life is too short, and human talents, except in these rare instances, are too limited. His character as a profound politician, notwithstanding several errors into which he seems to have been driven by the impetuosity of his physical temperament, is sufficiently established by the frequent references which men of all parties make to his authority. But we are told that he had also so wonderful a capacity for making himself acquainted with all branches of knowledge, that on whatever subject he spoke, the hearer was led to suppose that subject had been the study of his whole life. This was repeatedly observed as being the character of his public orations, which necessarily comprehended at different times subjects widely various, and, to common apprehensions, incompatible. In private conversation, also, which, though demanding less mental power, yet, as it descends more into particulars, is perhaps a more severe trial of the exact depth of a man's information, the effect he produced was even greater." Dr. Johnson said of him: "If a man were to go by chance, at the same time with Burke, under a shed, to shun a shower, he would say, 'This is an extraordinary man.' If Burke should go into a stable to see his horse dressed, the hostler would say, 'We had an extraordinary man here.'" And on another occasion he remarked: "Burke is the only man whose common conversation corresponds with the general fame which he has in the world. Take up whatever topic you please, he is ready to meet you." It is curious, also, that Burke had his great admirers in the only particular concerning which Johnson was unwilling to acknowledge he had any merit, that is, with respect to his *wit*. Such was his knowledge of circumstances and places connected with America and American history, that Benjamin West, himself an American, seems to have half suspected him of being his countryman, and firmly to have believed that he must have visited America. Knowledge so extensive, so various, and so accurate, could not have been acquired without every faculty of the mind being possessed in the highest degree of perfection. The attention must, in the first place, have been precise and powerful; memory highly faithful and retentive; imagination vivid; the power of comparison vigorous; the great result, when the mental exercise was not obstructed by passion, was a judgment

in the utmost degree correct. Whatever he had attempted he would probably have mastered, and in different circumstances would have excited no less admiration as a poet, a painter, or a lawyer, than he did as an author, an orator, and a statesman."

But, as Dr. Conolly says, the ordinary circumstances of life do not require the possession of genius; nor is it at all essential to wisdom or virtue. If many geniuses were necessary the world would have them. As it is, they are few and far apart. An era now and then occurs, making necessary an Alexander, a Julius Cæsar, a Napoleon Bonaparte, a Burke, a Bacon, a Sir Isaac Newton, and a few others, and they appear; but in the general course of events it is only necessary for progress that there be mediocrity of the faculties of men's minds in natural endowments—the superiority in this or that field of learning being the result of cultivation of it to the neglect of others.

For an individual to become a great military chieftain it is more necessary, probably, for him to be a genius than it is to become a great astronomer, mathematician, philosopher, etc. To command the movements of a vast army of many thousands of men—to use it effectively as a single, great, mighty engine, in all its wonderful and almost incomprehensible complexity, requires the utmost development of every mental faculty—attention, perception, memory, comparison, judging, imagination, etc., with calm and unimpassioned emotions. It would be impossible for a really great military chieftain, like Cæsar and Bonaparte, to have some of the faculties of mind but feebly developed, as it is the case sometimes with distinguished musicians, great artists, and even great poets. From the beginning of the world, when the people have had an opportunity to choose their rulers, they have nearly always selected their most distinguished warriors, having, as it were, an instinctive feeling that such were the most competent to rule. And when we consider that the greater the qualifications a man possesses to be a great military chieftain, the nearer he approaches to be a genius, it must be admitted that the instincts tend to lead aright.

CIRCUMSTANTIAL EVIDENCE.—In very many cases it would be impossible to convict of crime if circumstantial evidence was not regarded as competent testimony by

the courts. Its unreliability, however, has been exhibited again and again. Probably in no instance was there ever a clearer exemplification of its fallibility and the great wrong it is in danger of producing, than in the case of a murder last June in the city of New York; namely, the murder of a Mrs. Hull by a negro man named Christine Cox. We were in New York at the time the murder was committed, and recollect well the great excitement that prevailed with every one. Mrs. H. had retired to bed at her usual hour, and on the next morning was found lying dead in her bed—evidently having been killed by strangulation from choking. Her limbs were found tied to the bedstead, her eyebrows were scorched by fire, and other marks of fire were visible on the bed-clothes, and *spots of candle-grease* were observed here and there on the bed. On examining the premises the front door was found to be opened, which had the appearance of having been opened from the inside. There were no marks of burglar tools anywhere showing that any one had broken into the house. A trunk in the room, however, was found to have been forced open, and a number of articles of jewelry belonging to the murdered lady were missing. No further robbery was committed, although the house was well furnished and contained much to excite the cupidity of a burglar. The husband of Mrs. Hull—a physician by the way—was a very old man, much older than herself, and did not share with her her bed and room. She, if we remember rightly, owned the property and engaged in society much, while he was somewhat a recluse. What was remarkable, although the house was well supplied with gas, Dr. Hull himself always employed for his own use candles, and kept a supply of them in his room. No one in the house but he was ever known to use a candle.

It soon began to be whispered about that Dr. Hull was the murderer, and the police authorities looked wise, and announced to newspaper reporters that they had struck upon a trail, which they were following, and would soon have sufficient evidence “worked up” to convict, when an arrest would be made. A few days after the tragedy a man came forward, who subsequently proved to be an ex-convict, and testified that he had been approached by an individual, whom he recognized to be Dr. Hull, who had offered him a large sum to take the life of a certain woman, whom he desired to have put out of the way. A

chain of evidence of a terrible character was thus forming against Dr. Hull, which, if it had not been broken just at the time it was, would have led to his being charged with the murder of his wife, his conviction, and suffering the penalty—death, or imprisonment for life. But a fortuitous circumstance happening in a neighboring city, the black clouds that were gathering about his head were dissipated, the suspicious circumstances were explained, and the plots of the police to manufacture evidence that they might claim the offered reward and relieve themselves of the odium consequent upon their inability to unravel the mystery of the murder, brought to naught. A negro presented himself at a pawnbroker's shop in Boston and offered for pawn a set of cameo jewelry, a gold watch, etc., saying that it belonged to his sister, who lived in Boston. In a short time afterward, the pawnbroker, reading a description of the jewelry of Mrs. Hull that was missing, immediately recognized that it suited that which had been offered him by the negro. He reported the fact to a reporter of a paper, at the same time giving a description of the colored man. The reporter went immediately in search of him, and finding him at a church of colored people, had him arrested. As soon as arrested he made confession of the murder, giving full details. He said he was passing by the house of Mrs. Hull about midnight of the murder, when he noticed that the front window next the hall door had been accidentally left open. He had been for a short time a servant in the house, and it occurred to him immediately to commit a robbery, which he had not thought of before. He entered through the window, fastening it after him. Getting into Mrs. Hull's room, and arousing her somewhat from her sleep, to prevent her from making an outcry, he placed his hand over her mouth and held her nose. She struggled, but he held her down by force, still continuing to smother her. Presently she became quiet, and he lighted a candle which he had brought with him, and which was found in his trunk after his arrest, and proceeded to bind her hands and feet to prevent her escaping and giving the alarm while he would be ransacking the room. After the lapse of considerable time, noticing that she had not moved, he became alarmed by her long-continued quietness, thinking that she had fainted and might die. He instantly instituted efforts of resuscitation. Seeing a

Cologne bottle, he dashed the contents in her face, spilling some of it over the bed-clothes, which took fire from his candle, scorching them and burning her eyebrows and eyelashes. Finally becoming convinced she was dead, he hastily left the house, for fear he might be caught in the very act of murder, passing out of the front door, which in his haste he forgot to close after him.

Thus it will be perceived that Dr. Hull, by apparently the merest accident, or through the interposition of a divine Providence, as many pious individuals would believe, and which we are not disposed to deny, escaped from a net of circumstances which had so enclosed him with its meshes as to leave no doubt in the minds of nearly every one that he had taken the life of his wife, until the arrest and confession of the real murderer disentangled him.

But how is proof of the fallibility of circumstantial evidence interesting to a physician? Simply because everything pertaining to crime concerns him. He has to do with it throughout his whole professional career. He is the expert who decides as to responsibility in the commission of crime. In cases of suspected poisoning he decides the question from the symptoms, and seeks for the poison in the viscera, when murder has been affirmatively declared. In blood-stains he determines whether they are those of human blood or not, and differentiates between the blood of fowl, fish, reptile, etc., and the blood of other lower animals. There is scarcely a criminal trial nowadays of any kind in which his testimony is not needed. Such being the fact it behooves the physician to be posted in everything pertaining to crime—what constitutes it, what is the value of the different kinds of evidence that may be brought forward to prove it, etc. As a journalist, therefore, we feel it incumbent to report, now and then, facts coming under our observation in regard to crime that are illustrative and of interest.

BARNARD DAVIS' COLLECTION.—The Hunterian Museum is about to receive an important addition to its treasures. For more than fifty years Dr. Barnard Davis has been accumulating a rich collection of crania and skeletons, illustrating every variety in the human species in every part of the world. He has exhumed the barrows of the

early inhabitants of England, and carefully preserved the osseous remains found in them. He has begged and bought from travelers and collectors from every clime, from Greenland to Patagonia in the New World; from Siberia to Tasmania in the Old. From the islands of the Pacific specimens were obtained before the aboriginal people were either destroyed or modified by new ways of life introduced by the English settlers. As an anthropological collection, it is probably not equaled by any in the world in its extent, richness and variety. The whole is about to be removed to the Museum of the College of Surgeons.

DEATH OF THE SULTAN'S SISTER.—We learn from the *Lancet*, of January 31st, that the sister of the Sultan died January 3d, from dropsy of the ovaries. She was born in 1842; married in 1857, having one child, which died in its infancy. She suffered several years from her disease, but could not be induced to undergo the radical operation for cure. She would submit only to tapping, and was tapped twelve times with considerable relief. After the twelfth tapping it became manifest that if the radical operation was deferred much longer she would be sacrificed. She, however, delayed against the urgent advice of her physicians. In deference to her wishes a thirteenth tapping was performed; but the relief was very transient, and she sank and died. The deceased Sultana is described as having been of warm heart, very intelligent, and possessing more cultivation than commonly falls to the lot of the fair inmates of harems.

TRANSMISSION OF SCARLET FEVER BY MILK.—A sudden outbreak of scarlet fever at Fallowfield, England, included thirty-five persons. The Local Government Board directed Dr. Airy to investigate and report upon it. He found that the infection had been distributed to the families through the agency of a particular milk supply. The question of the mode in which the milk could have become infected was not so fully cleared up, but it was shown that one of the milkers on a dairy-farm lodged in a farm-house where scarlet fever was present at the time when the milk presumably became infected, and it is suggested that the infection was communicated to the milk, in some way undetermined, but not inconceivable, through his agency.

LESIONS OF THE BRAIN AND SPINAL CORD.—It has not unfrequently occurred to us that physicians oftentimes forget the morbid changes that may be produced in peripheral parts of the body or in the viscera, by lesions in the brain or spinal cord. These parts are in connection with every part of the body, and every part of the body consequently are in sympathy with them. Without the nervous system, not only as regards intelligence, but in every other respect, a human being would be on a level with a vegetable, and diseases would be local, arising chiefly from injury to a part. But by the nervous system all the organs are connected, and are in sympathy with one another, so that when one is affected the whole organism feels it. But the brain and spinal cord, with their nerves, not only link organs and parts of the body together, but give them their power. For instance, the heart would not act if deprived of its nerves, nor would the lungs, etc. Cut off the muscles from their nervous centers and they immediately become paralyzed. Lesions of the brain and spinal cord, therefore, affect distant parts frequently as if the latter were primarily the seat of disease, as when paralysis of the limbs of one side is consequent upon apoplexy. But there are many other affections just as directly the result of brain lesions whose cause are not so obvious and not so easily recognized. Says M. Charcot, in his work on the "Nervous System:" "The consecutive lesions in question (lesions of the cerebro-spinal axis) may affect most of the tissues and may occupy the most diverse regions of the body: thus, we may find them in the skin, the connective tissue, the articulations, the bones, and even the viscera. They generally present, at least at the beginning, the characteristics of inflammatory action. Frequently they play in the drama of disease but an accessory part, being simply added on to the usual symptoms, hyperesthesia, anesthesia, hyperkinesis, akinesis, motor-incoordination, etc. But were it only for the interest they have, when considered from the standpoint of pathological physiology, they should not be neglected."

It is not at all uncommon for severe dyspeptic symptoms to be consequent upon lesion of the nervous system, and we have known patients, under such circumstances, to be treated for months by remedies addressed exclusively to the digestive organs, as if their disorder was

owing entirely to lesions in them. Again: pneumonic symptoms, as cough, etc., arise when the lungs are in a healthy condition—the seat of the disorder being somewhere in the cerebro-spinal axis. We have no doubt that if the physiology of the brain, spinal cord and nerves were studied more, and their offices better understood, it would conduce much to a better understanding of pathology; and the treatment of disease, the great end of medicine, would be much more successful. In fact, we are of the opinion that very much of the progress of the healing art that will be made in the next decade or so will be the result of the progress in knowledge of neuro-physiology and pathology. How frequently are individuals prostrated by disease without its being able to be traced to any cause! And how ignorant are physicians as to causes which operate in the selection of parts by disease! No doubt many of these things will be made plainer when the intimate relationship of the nervous system to the organism in the discharge of its offices is not so much of a mystery.

SPECIFIC FOR DRUNKENNESS.—We learn from a copy of the *Commercial* that a Dr. D'Anger has discovered a specific for drunkenness, which is announced as a *positive cure*. Mr. Medill, editor of the *Chicago Tribune*, says it has cured 2,800 cases without a relapse in a single instance.

The Doctor does not make a secret of the remedy. It consists of a preparation of red Peruvian bark, *cinchona rubra*. A pound of the bark is coarsely powdered and macerated in a pint of alcohol, for a length of time not stated. Evaporation is then employed until a half-pint is reached. A teaspoonful of this is given every three hours for two days; after that the dose is reduced to a quarter-teaspoonful; then to fifteen, ten, and five drops. The cure is effected in from seven to fifteen days; though in extreme cases thirty days are required.

It is well known that in institutions for the cure of inebriates, quinine, the most efficient alkaloid of Peruvian bark, is used as a *tonic*; but we have never known of its being employed as a *specific* in curing. Dipsomania is undoubtedly the result of changes having taken place in the brain from the long-continued indulgence in alcoholic drinks. If the preparation mentioned cures it must

be by removing those changes. It is a remedy, however, easily tried, and it will have the advantage that if it does no good it will do no harm. It would be very proper to prescribe it as a tonic during the nervous depression following upon breaking off the habitual use of stimulants suddenly.

DECEASE OF DR. CUTLER.—We very much regret to announce that we have just learned of the decease of Dr. S. P. Cutler, of Memphis, Tenn. Our readers will recognize him as a frequent contributor to the pages of the MEDICAL NEWS in the department of Microscopy. The immediate cause of death, as we learn, was chronic diarrhea. He had had an attack of typhoid fever, which prostrated him very much. Our informant states that he died between the 10th and 15th of January last. Although quite feeble, he had been able to be on his feet. On the night previous to his decease he retired to bed as usual and slept well; but at an early hour of the morning he expired so gently and calmly that his wife did not know for some time that he was dead.

Dr. Cutler was a gentleman of much cultivation and extensive attainments. He will undoubtedly be mourned by very many friends. During the existence of the Memphis Microscopical Society, which, at one time, was a very active organization, he was the President.

DEATH OF DR. J. B. DAVIS.—We have recently learned of the decease of this gentleman, who resided at Peach Grove, Pendleton County, Ky. Our information was accidental, and we are not acquainted with any particulars.

NOTICE.—At the request of their friends, who have handed us their names, we have sent a number of individuals specimen copies of the MEDICAL NEWS, with a view of their becoming subscribers. If any such, however, do not desire to become subscribers, we will be obliged if they will return the copies with their names and post-offices marked on them. Those who desire the NEWS continued should remit immediately. The MEDICAL NEWS is the *cheapest*, and, we think, the best medical journal published.

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ORIGINAL CONTRIBUTIONS.

Case of Sympathetic Otitis.

BY E. A. COBLEIGH, M. D., ATHENS, TENN.

Two years ago I had under treatment a case of otitis that interested me a good deal, and in its suspected causation was, to myself at least, quite novel. But not until recently did I find any confirmation for my etiological hypothesis, wherefore I neglected to report the case in the journals. Perhaps to specialists in the department of aural affections there may be nothing remarkable in my report; perhaps it may present no novel features; but I make no claim to being an aurist personally, and so far as my facilities for consultation of authorities extend, have been unable to find any parallel to the case in question; wherefore I give it to the readers of the NEWS, mainly for the benefit of the large mass of said readers whose time, or taste, causes more or less neglect of otological studies, and who yet, being engaged in general practice, frequently have to treat ear diseases, and naturally wish to do it intelligently and well.

S. H., a contractor and mechanic, aged about twenty-eight years, robust and hearty, applied to me for an aural examination, giving the following history: Some five or six months previous to this visit he was quite busy doing some work on house-roofs, and his services were very much in demand, as building was, for the times, unusually active. This was in the late summer. His ear was found to be sore and tense one morning on waking, and during the day became decidedly painful "deep in," forcing him to go to his family physician for relief at dark. Only

a superficial (mere ocular) examination was made, for lack of necessary appliances, and the usual routine course of injections ordered. The treatment consisted of carbolated water, laudanum, Castile soap, and cotton in the meatus. He passed a wretched night, but next morning rode six miles to the country to fill an engagement, and set in at roof-work. In an hour or two his head was aching wretchedly, hearing lost in the affected ear, and nausea commencing. Soon after he was obliged to desist from his labor and lie down. Described his pain as terrific, and it so continued all night. Next day he was some easier, though dizzy, and still in no little pain, but went to his usual task. No power to hear with the ear. Managed to keep going and at work till nearly night. A slight discharge of pus had now set in from the meatus, but not much. Pain became intensified whenever the cotton was removed. At night his sufferings were somewhat aggravated. Next morning, while on the roof, was seized with a violent paroxysm of agony, lasting over an hour, and forcing him to descend and seek shade, where he lay down on the grass; and while thus reclining, in the midst of fearful pain, was both surprised and instantly relieved of his terrible sufferings, by a sudden gush of very offensive, sanious pus, from the diseased ear. This flow of pus was rather profuse, and resisted every method of injection treatment for some weeks. During this time blisters behind the ear, seatons, anodynes, sweet oil, astringents and disinfectants were variously used. Hearing, though materially improved, was quite defective. A constant buzzing was heard, and at times intense itching (located *in* the ear, and seeming to run down the angle of the jaw to the throat) gave much uneasiness. At length he consulted two other physicians, and underwent a repetition of about the same course of treatment at their hands. Slowly he improved, except in hearing, and the discharge ceased; but on any over-exertion, exposure, or indiscretion of any kind, this would reappear for a few hours, or a day. During all of this time he observed the most perfect cleanliness by tepid injections. Finally he got seemingly well, and only when he exposed himself to wind, without protecting the meatus by a cotton pledget, was there any flow of pus, or any pain. Roaring, occasional vertigo in slight degree, and impairment of hear-

ing, however, remained. For an unusually severe aggravation of these he at length applied to me.

On otoscopic examination I found the meatus healthy nearly up to the edge of the tympanic membrane, but here it was swollen and inflamed. The membranous "drumhead" was depressed, fissured (diagonally from above and in front, downwards and backwards), the slit running just below the tip of the malleus. The whole membrane was opaque, congested, and had a swollen, sodden appearance. I gave an unfavorable prognosis as to hearing, thinking the rupture an old one and too extensive to close perfectly, although, from the chemotic condition, its edges were nearly, or quite, in apposition. Air passed freely from the throat, through this slit, on forcible blowing. I now put the patient on the use of copious *hot* water irrigations, systematically followed every day. Gradually I made these more stimulant in character; and, lastly, put him to using ergot, tannin and glycerine. Part of the treatment I attended to personally; the rest was left in his own hands. At first a renewal of discharge occurred, but soon lessened, and finally disappeared altogether, the other symptoms improving steadily at same time, except the pruritus, which was sometimes quite tormenting. At length, during a "spell" of very windy weather, this became almost intolerable, and led to the assertion by him that it was always worse in such weather, except when cotton blocked the entrance of the meatus; and, as the cotton aggravated the roaring sounds in that organ, he was averse to its use. I now examined with the otoscope again, after several days more use of that instrument, and found the inflammatory condition no longer present, the tympanic membrane dry and all shriveled up, except at the upper and posterior part of the cavity, where a triangular fragment, with its apex at the attachment of the malleus, remained, and looked healthy. Pendant from the most superior point of the tympanic circumference (in the perfect state) hung a dry shred of old membrane, swinging loose, and impinging on the remains of the same membrane below, every time it oscillated. This I twisted off. Treatment had been discontinued some time previously, and I had noted a slow shriveling of the "drumhead" at my two former examinations. In this condition the ear still remains, itching never having occurred after the removal of the fragment

mentioned above, and no other symptoms of disease. Hearing is nearly, if not quite, normal, notwithstanding the extensive destruction of that delicate tissue, the perfection of which is generally essential to good hearing.

Now as to the etiology. He could assign no cause for his attack, though I questioned him closely. But, after my first examination and treatment, he cursorily asked me to look at an inferior wisdom tooth, which was giving him considerable trouble. It was on the same side as his diseased ear, and the gum around it was very much swollen and congested. This I speedily relieved by free scarification, and to my surprise the ear trouble was materially mitigated at the same time. Suspecting, yet hardly deeming the opinion tenable, that perhaps the gingivitis had some influence on the aural disturbance, I questioned him more closely on that point, when it transpired that previous to the inception of his primary otitis this same tooth had been troubling him severely, and was so doing when the ear disease reached its highest degree of intensity. At that time he was "cutting" the tooth, and it proved so painful as to deprive him somewhat of his rest. But in the suffering of otitis he lost sight of the lesser pain of the gingival disturbance, except that he remembered its having interfered with mastication so that he scarified the gum, or tried to, with his own penknife. On the day preceding the discharge of the auricular abscess, he recollected that the eruption of this troublesome tooth was fairly accomplished, as demonstrated by finger and mirror.

Though querying in my own mind whether any relation of cause and effect could be scientifically affirmed in this case, I was at first rather inclined to regard it as a mere coincidence, despite the intimate relation of the inferior dental nerve with other neural branches supplying the meatus and deeper structures of the ear. But I could not dismiss my idea of the improbability of a repetition of any such coincidence at a date several months after the first occurrence. This was more difficult, too, because the patient was stout, free from any constitutional taint, and with no previous tendency to any affection of mouth or ear, liable to be kindled into full play by some slight cause, or neighboring pathological action. The more I pondered it the more ready did I become to accept as correct any hypothesis of sympathetic otitis, in the case in question, depended primarily on dental irritation. And

a few months ago practical confirmation of such opinion occurred to me. The *same patient* presented with threatening eruption of the mate to his mischievous old molar. Two years after cutting the first its fellow of the other side was coming through; and it was giving rise not only to swelling, congestion and pain in the jaw, but tinnitus aurium, vertigo, throbbing, and external tenderness about the meatus of the corresponding ear, was decided, with slight otalgia. I at once freely cut the gum over the advancing crown, and scarified the neighboring edematous tissues. The whole trouble vanished in a few hours, the tooth found easy exit, and no ear disease resulted. I needed nothing further to convince me of the origin of the former attack of otitis in trigeminal neuralgia, propagating an irritation to the ear; which probably first interfered with the nutritive functions therein, and, later, gave rise to a higher grade of vascular disturbance, that eventuated in destructive inflammation. Taking this for granted, then, may we not carry the idea to another point, and trace the cause of many infantile cases of attorrhœa to dentition? We know that a vast number of such attacks occur at the ages when the first and second dentitions are progressing, and many times no obvious causation for the affection is, or can be, assigned, except the greater susceptibility of early life to atmospheric vicissitudes and diseases generally. We charge too much to "colds" anyway, to conceal our own doubts or ignorance. Would it not be well, in these cases, to follow a rule of close examination of the mouth, and at once incise tense and angry portions of gum, if any such are found? Certainly it can do no harm, and *may* result in unexpected good.

Another confirmatory case, establishing molar and aural sympathy, fell into my hands soon after this last. A married lady, of about thirty years, consulted me regarding unpleasant noises in one of her ears, which had been continuous for several years, but always worse on lying down, and sometimes so severe as to produce trying vertigo, and nearly "drive her frantic." Hearing was good in that ear, except when at its worst, and then the confusion of sounds was extreme. Otoscopic examination revealed a perfectly normal meatus and drum. On resorting to rhinoscopy I found no evidence of pharyngeal, eustachian, or post-nasal disease. But accidentally touch-

ing the last inferior molar of right side with my throat mirror, she instantly gave a start, and informed me that that tooth had always been tender and "grumbly" since its first appearance. The right ear was the affected one also. I soon ascertained that the tinnitus and tooth eruption occurred first at about the same time, and, though the molar showed no flaw anywhere, it had periods of dull aching, and then the ear was always worse. Learning that a dentist was coming to her house that very afternoon to do some filling on her other teeth, I advised her to have the disturbing wisdom-tooth extracted. Though loth, she consented; it was done, and her tinnitus is wholly and finally gone.

Foreign Bodies in the External Ear.

BY W. R. AMICK, M. D., CINCINNATI, OHIO.

Continued from the January number.

SINCE writing the first part of this article, a young man, Fred. N., presented himself for treatment for some kind of aural trouble. On examination, a dark substance was found filling the internal portions of both external auditory canals, obscuring the drumheads. The substance in the right ear was darker than that in the left, and when removed proved to be cerumen. When the object that was in the left ear was removed, it was found to be a species of moth, in a fair state of preservation. The lower part of the body and the tips of both wings, more of the left than of the right, were gone. It measured fifteen millimeters, and it is safe to say that at least five millimeters of its original length were destroyed. As soon as he saw it he remarked, "That bug got in my ear last June when I was lying on the grass in the park. I tried to get it out with my finger, but pushed it into my head. It lived for two days, and kept scratching around and moving about." We removed the bug from the left ear, but he declared that he "was lying on his right side and that it entered the right ear, had gone through his head and was trying to get out at the other ear." This I am satisfied is a mistake, and as it has been about eight months since the accident happened, he has forgotten which ear it was. Even if it should be necessary to say

anything on this subject (but it is not), we might refer to the fact that the membrana tympani were intact, without any indication of having been perforated, and it would be utterly impossible for an object the size of this bug to be even forced through the tubes. Furthermore, the bug had its head down upon the drumhead, and its body and wings lying outward in the canal.

From his statement in this case, it can be seen how easily false reports get circulated. When he made the remark that it had gone through his head, etc., I made no reply. He will, therefore, tell his friends a wonderful story how a large bug got into his ear; how it went entirely through his head; how it was taken out of the other ear, etc.

Another form of trouble connected with the external ear, which can very properly be classed under this head, is the growth of aspergillus. It is generally found located upon the membrana tympani, but may grow in any portion of the canal. When it is situated upon the drumhead, it spreads out and forms a false membrane over the latter, and, extending, lines the inner wall of the canal. When the growth is extensive and is removed entire, it has the form of the canal, and also resembles a glove finger. In appearance, it is darker than normal membrana tympani, looking like a piece of newspaper after it has been placed in the water.

An ear that has recovered from an attack of suppurative inflammation, is generally more favorable than any other for the growth of aspergillus. The growth is, as a rule, rapid, so that it can not remain long in the canal without causing sufficient trouble to demand the attention of the patient.

Aspergillus produces, in addition to the ordinary symptoms of a simple foreign substance, such as deafness, tinnitus, aurium and a condition of fullness, a burning or itching sensation, attended in some cases with pain. There may be some congestion of the membrana tympani, but this is generally hidden from view by the pseud-formation. In a few days there is a serous discharge takes place, having a straw color. This discharge is sometimes of an acrid composition, and if allowed to run down over the concha and lobe of the ear may produce an excoriation.

In a case that came under my observation, the location was in the inferior portion of the canal, about eight milli-

meters from the drumhead. The patient stated that she had a slight watery discharge from her left ear, and that every day she removed some yellowish-looking substance with a pin. Under the instillation of alcohol and salicylic acid the trouble disappeared.

Polypus in the external auditory canal may properly be classed under the second class—generated within. In regard to this fungus we will make but a few remarks in the present article. It is generally produced by, or the result of, a chronic otorrhœa. The discharge continually bathes the mucous surfaces of the tympanic cavity and the lining membrane of the canal. In the latter, this is followed by excoriation and inflammation. As a result of this, we have granulations formed. Granulations, from this cause, are of a fungous nature, and might properly be called incipient or small polypi. One or more of the granulations may grow rapidly, and if located in the tympanic cavity, the most common origin of aural polypi, will soon pass through the perforated membrana tympani into the external auditory canal. Here it will fill up the passage and be a foreign body. Cases of this kind are most always preceded by an acute otitis media purulenta, which has not been relieved by treatment, and the discharge allowed to continue for an indefinite length of time.

The symptoms of a small polypus are not very pronounced, in fact, the patient may be ignorant of its existence until after the ear has been examined by a physician. There is generally more or less fullness, headache or vertigo, attended with deafness, and in some instances pain, and even swelling of the integument of the canal and auricle. When the polypus is large, entirely closing up the canal, and the eustachian tube is patulous, pus may find its way to the throat, as occurred in a case which we treated last summer. In a case under treatment at the present time, there has been considerable pain in the ear, and the headache has been very troublesome for several months. There has also been a very free secretion of pus, although the polypus was not larger than a hazel-nut. The origin in this case is in the upper and posterior wall of the tympanic cavity. The pedicle passes through the membrana tympani in the posterior superior quadrant.

As the province of this article is simply to speak of

polypus as a foreign body in the external canal, we will not say anything in regard to its nature, classification, etc.

In speaking of the treatment of foreign bodies in the external auditory canal, we will first refer to a few of the methods employed when aural surgery was in its infancy.

For the removal of a foreign body from the ear of a child, Archigines gave the following directions: Seize it by the feet and give it a vigorous shaking, while an adult was to be placed in a recumbent position upon a table, and the head nearest the ear raised and then closed with a slam. The following unique and peculiar advice is given by Arcularius: Cut off the head of a lizard and place it in the ear, leaving it there for three or four hours; then remove it, when the foreign particle will be found in its mouth. The *modus operandi* of how the foreign particle passes from its position in the ear to the reptile's mouth, located at the concha, is not explained. I suppose it comes under the head of "presto change," which gives a very clear and definite explanation (?) of this mysterious performance. Another method was, that the operator should take a small bit of cotton wool, roll it into a ball, and after examining the ear, make an attempt as if removing something from the canal, and immediately throw the wool into the fire, impressing upon the mind of the patient the fact (?) that it was taken from the ear. It is very evident that in this proceeding faith plays the most important role, for without that ingredient the operation amounts to *nil*.

It will not be out of place to state the method of examining the ear as directed in a treatise on the eye and ear that was printed in this country in 1821: "Although air can not be made to issue at the meatus externus, we are not, therefore, authorized to draw the conclusion that the membrana tympani is sound. It probably is so, but it must be ascertained by actual examination. The ear must be inspected in a strong light. For this purpose, the patient should be set in such a position that the rays of the sun may fall into the meatus, and illuminate it sufficiently to make the bottom visible; or, the ear may be sounded with a blunt probe, and any person acquainted with the particular feel of the membrana tympani, may easily distinguish it by the touch. If the membrane be defective, the instrument will pass into the tympanum,

the bony superficies of which is still more readily distinguishable."

The sage advice given by an old lion-tamer to a young scion of the profession that subdues the king of beasts, was, "First trap your lion." So it is with removing foreign bodies from the ear. First satisfy yourself by a careful examination that there is a foreign particle in the canal, and unless you can see it don't undertake to remove it. For, to make a correct examination, it is necessary to have an aural mirror and speculum and a good light. When you find that there is really something in the ear, then its removal will depend upon its size, location and surroundings. The majority of small particles may be washed out by means of the aural syringe. This should, as a rule, be the first proceeding. If this should not be successful, and the object can be seized with the forceps, then remove it in that manner. In a great many instances, where the particle is lodged upon the membrana tympani, and is too large to be carried out by the reverse current from the syringe, it may be dislodged by it, and placed in such a position that it can be grasped with the forceps. If the particle is imbedded it may be necessary to use a scoop to loosen it.

It is scarcely necessary to say that in any case where instruments have to be used that a great amount of care is requisite. The reason is evident. When a foreign substance has remained in juxtaposition to the membrana tympani for any length of time it is liable to produce an inflammation of that organ, thus diminishing its powers of resistance. There may also be swelling of the integumentary lining of the canal, which materially, if the latter is marked, complicates the operation. The danger then is, as you are unable to pass an instrument, so easily at least, between the object and the side of the canal, that you are liable to press it against the drumhead and rupture that membrane. If the particle has been in the ear but a short time, or has not caused any change in the membrane, then its powers of resistance remain unchanged. But when it has remained against it a sufficient length of time, and has caused not only inflammation, but supuration, it is not only at the expense of the resisting power, but the drumhead itself. This is where the object is large and can not be displaced by the syringe, and you can not grasp it with the forceps.

A very ingenious method for removing large particles imbedded at the bottom of the canal, is to take a strong camel-hair brush and dip it in liquid glue or stratina, and place it against the object, keeping it there until it is dry, then carefully withdraw it.

For removing a pea or bean that has remained at the bottom of the canal until it has become swollen, I have had the best success by splitting it with a Graefe's cystotome. By the use of this instrument there is an advantage gained over the common bistoury. With the latter the pressure is made more from without inward, while with the former it is the reverse.

After the pea or bean has been divided, then there is generally no trouble attending its removal.

Small insects can easily be removed with the syringe, unless they have fastened themselves to the walls of the canal or membrana tympani, then they will have to be removed with the forceps or hook.

For the destruction of an insect while it remains in the canal, I have found a solution of amyl nitrite to be very good.

Large insects are not hard to remove, as it is no trouble to see them, and the forceps is generally the only instrument needed, if the syringe should fail.

For the destruction of aspergillus, after the canal has been as thoroughly cleansed as circumstances will permit, the instillation of spiritis rectificatus is about the best application, and in a few days generally destroys them.

Polypus may be removed either with caustics, the knife or the snare. After the body has been removed the root must be destroyed, or another polypus will grow. The root can be destroyed by applying caustics or acids. Probably the best is chromic acid carefully applied.

COLLECTING BILLS.—Further steps toward making this a more practicable and easy process are being taken among the profession in the West. The physicians of Quincy, Ill., have adopted a series of resolutions by which they agree to render their bills monthly, and employ a common collector, who will keep a delinquent-list for the benefit of his patrons.—*New York Medical Journal*.

SELECTIONS.

Alterations of the Dead-born Fetus.

BY M. DENAIRE.

THE fetus dead in the mother's womb is not always immediately expelled; it may remain a greater or less time in the uterine cavity, and there undergoes various modifications, described under the term maceration. Maceration is not putrefaction: the fetus is in a closed cavity, where it has no contact with the air, which is the important element in putrefaction. Maceration is revealed by several phenomena observed in the fetus and its annexes: placenta, cord, amniotic fluid, membranes.

1. *Fetus*. The principal characters presented in a macerated fetus, which permit it to be recognized from a fetus dead after birth, are: Absence of cadaveric rigidity, softness of ligaments, epidermic desquamation, change of color in the skin and organs, and softening of the latter.

The first phenomenon which strikes us in examining a dead-born fetus is the complete *absence of cadaveric rigidity*. To be of importance, however, this phenomenon must be observed before the fetus has undergone malaxations, or before putrefaction has set in, for rigidity disappears soon under the influence of both these causes.

Besides this absence of rigidity, which comes from muscular relaxation, great softness of the ligaments is seen, hence extreme mobility of all the articulations, and in particular of the sutures of the bones of the skull. These last, extremely mobile, give on palpitation a special sensation, compared to that of a bag of nuts. About these the hairy scalp becomes too large, presents folds at various points. This phenomenon may serve to diagnose the death of the fetus while it is still in the uterine cavity, by means of the touch.

The epidermic desquamation is an important sign. It may be produced either spontaneously or accidentally. Spontaneous desquamation is due to the formation of phlyctenæ, produced by an exudation of serum; these break and leave the derma exposed. Accidental desquamation is that which results from friction during delivery, or from handling afterward. The degree of desquamation

varies according to the length of time since the death of the fetus. When the death is recent, it is necessary to pinch the skin strongly to produce it; when long dead, on the contrary, it is produced by the slightest contact. From this fact we may determine the probable date of death. For this the progress of desquamation should be studied upon a fetus recently dead, macerated in a liquid for some time, making daily observations of the epidermis.

In the desquamated parts the derma, exposed to the air, takes, at the end of some hours, a bright red color, due probably to the action of the oxygen of the air upon the hematine; at the same time the surface hardens from drying.

The coloration of the fetus furnishes very valuable signs. At the beginning a yellowish coloration is observed, due to the meconium, which always escapes at the moment of death and mixes with the amniotic fluid. But after some time this coloration disappears, to give place to a rosy or uniform slate-gray coloration, due to the blood which becomes altered, loses its properties and escapes out of the blood-vessels into the tissues. The slate-gray color probably results from a transformation of the hematine of the blood. It begins in the abdominal walls, where it presents itself in spots, which give to the abdomen an appearance resembling the belly of a frog. This similitude is increased by the flat form and flaccidity due to the formation of *post-mortem* ascites, which is produced by the transudation of blood. Beneath the skin, the plasma spreads into the meshes of the connective tissue, and forms either a rose-colored jelly or a white lardaceous substance.

The blood is more or less completely decomposed; the globules become raspberry-like, are destroyed, and their coloring matter mixes with the plasma, which gives it a color varying from rose to brown-red, and which, changing with time, may even approach that of leather. In the large veins, as the vena cava, large clots are found.

All the organs finish by taking a uniform tint, the result of progressive imbibition of the altered sanguinolent liquid in which they are continually bathed. This coloration, however, does not appear everywhere in the same manner; thus the liver preserves for a greater or less

time its yellowish color due to the bile, and the brain its white color.

At the same time that they become colored the organs soften. The softening commences with the brain, which then appears under the form of a rose-colored pulp. The lungs and muscles preserve their solidity longest; they sink in water; but as they are susceptible of being inflated we should not conclude positively if they float that the fetus has breathed, for the insufflation may have been produced artificially.

The eyes become soft; sometimes the white of the eye can no longer be distinguished, it having taken on a red coloration: the cornea is lusterless and turbid. At the end of some days there is found in the ocular cavity a sanguinolent liquid which has replaced the aqueous and vitreous humor. In cases of long dead the eyeball is completely flattened.

Microscopic examination of macerated fetuses has been made by Virchow and by Lempereur. (These, Paris, 1865.) The common character of alteration of all the organs is fatty degeneration.

In the muscles, striation is recognized, between which are seen fine fatty granulations; the cells of the liver are destroyed, their place being taken by a fine granular detritus. The blood at the beginning may present raspberry-like globules, but soon only amorphous elements and fatty cells are found.

It is generally impossible to diagnosticate the cause of death from examination of the fetus; it is sometimes found in the placenta; but often it is found neither in the fetus nor in its annexes, for it comes from the mother or from detachment of the placenta.

The epoch of death is very difficult to determine, for we have no data. Still we may establish several periods:

In the first period, which lasts about two days, the fetus is colored yellow by the meconium. In the second period the yellow color disappears to give place to coloration by hematine. According as this coloration is more or less uniform and more or less deep, the death is more or less ancient. In the third period the sanguine color has completely disappeared, the fetus is entirely of a grayish white; this state comes on at the end of a month.

2. *Placenta*. It presents a uniform color resembling that of the fetus, and displacing the normal color. Nev-

ertheless, in the parts where the mother's blood circulates, there are still found traces of maternal circulation; the blood has not yet lost its color, and recent unaltered clots are frequently encountered, though no traces of them are found in the fetus itself. The normal consistence disappears to give place to great friability and flaccidity. With the microscope the villousities are found much larger than in the normal state, and are infiltrated with fatty granules. This augmentation of volume of the villousities due to infiltration leads to an increase of the total volume of the placenta.

3. *The Cord.* The cord, like the placenta, is more flaccid and presents a uniform color like the fetus, is smooth and infiltrated, flattened, and there is a disappearance of its spiral form.

4. *Amniotic Fluid.* During the first period it is colored by the meconium. At the second stage it takes on a reddish color and finally brownish, due to transudation of the blood of the fetus through the tissues.

5. *The membranes* present the same change of color. In the first period they are strongly tinted yellow by the bile. In the second they become reddish. The amniotic fluid is the vehicle of the coloring matter. The membranes become more friable than in the normal state.

From these considerations result the following practical points:

1. When the amniotic fluid escaping from the bag of waters is colored by meconium or blood, death of the fetus may be feared.

2. Epidermic desquamation of the fetus is an incontestible proof of death *in utero*.

3. Debris of cord or placenta suffice to denote death before labor.—*Ch. Med. Jour. and Ex.*

Ambrose Pare—1509--1590.

THOUSANDS of human lives have been saved during the past three hundred and thirty years by the substitution of the ligature in place of the red-hot iron, which was previously employed to arrest hemorrhage from divided blood-vessels. The relief that came to the world by putting an end to the cruel torture occasioned by burning or scalding gun-shot wounds with boiling hot oil is incalcu-

lable. It was "the Father of French surgery" who wrought both of these great reforms, Ambrose Pare—the grand, the imperial surgeon of the sixteenth century; the earnest and devout old Huguenot, who ever ascribed all glory, power and praise to our heavenly Father, claiming that he dressed the wounds only, and that God cured them.

This "famous chirurgien" was born at Bourg-Hersent, near Laval, in the province of Mayenne, France, in 1509 or 1510. He died at the age of eighty-one years at Paris, December 20, 1590. His parents were humble and poor, in consequence of which his early education was much neglected. He studied Latin, however, with a priest, and in return cultivated the garden of his reverend master, and groomed his mule.

Pare was early apprenticed to a barber-surgeon, by the name of Vialot, who taught him the rudiments of minor surgery. Colot, the celebrated lithotomist of that period, who came into the neighborhood of Laval to operate for stone, invited young Pare to hold his patient. The result of this opportunity to witness the surgeon's skill caused this youth to resolve to go to Paris to perfect himself in the science and art of chirurgery. The barber-surgeons then monopolized all the knowledge of this subject, and were the sole expounders of the art.

The works on the subject were few and faulty. Albucasis, Lanfranc, Brunus, Guido de Cauliac, and John de Vigo were the principal authorities. Pare pursued his studies three years in Paris, residing most of this time in the Hotel Dieu, that still famous hospital. When twenty-seven years of age (1536) he received the appointment of military surgeon, and from this date he served in this capacity for a third of a century. He became a member of the fraternity of Master-Surgeons, and subsequently was elected provost.

In 1552 he was appointed surgeon to Henry II., and thenceforth "the kings of France transmitted him to their successors as a legacy of the crown," holding the same position, in regular succession, to Francis II., Charles IX. and Henry III. These monarchs were all warmly attached to him; he was at once their privy-counselor and their professional adviser; he followed them in their campaigns, attended them in their retirement. Their confidence in his skill was boundless. When Metz was invested (1552) by the great army of the Emperor Charles V., and sick-

ness, and fearful mortality resulted from wounds, the besieged became discouraged, a horror possessed their minds "that the medicaments wherewith they were dressed were poysoned; which caused Monsier de Guise and other Princes to send to the King for mee, and that hee would send mee with Drogues to them, for they beleaved theirs were poysoned, seeing that of their hurt people few escaped. I doe not beleieve there was any poyson, but the great stroakes of the Cutlasses, Musket shot, and the extremity of cold were the cause." (Johnson's translation, p. 1150; Lond., 1634.) He then proceeds to describe by what means he was clandestinely brought into the city, and how M. de Guise commanded that he "should be well used, and bid mee I should not faile to be the next day upon the Breach, where I should meete with all the Princes, and divers Captaines, which I did; who receaved me with great joy, who did mee the honour to imbrace me, and tell me I was very welcome, adding withall they did not feare to dye if they should chance to be hurt." (*Ibid.*) It is believed to be due to the inspiring effect of his presence at this critical juncture that the besieged held out until the Spaniards were obliged to raise the siege.

It is said that it was through his influence over Charles IX., that a stop was put to the progress of the massacre of St. Bartholomew (August 24, 1572), when 70,000 Protestants or Huguenots were butchered in Paris and other parts of France by order of that weak and deluded prince. The old story that Pare was hidden in a closet to protect him from the fate of the other Huguenots is without foundation. He depended for safety on the promise of the king never to interfere with his religion.

Among the improvements to operative surgery, for which we are indebted to this illustrious surgeon, the application of the ligature to cut or wounded blood-vessels is the greatest. For ages previous the actual cautery had been the principal means of staunching traumatic hemorrhage. The idea of tying arteries and veins was not absolutely new to the world, yet the practice of it was entirely so. Galen, Celsus, Avicenna and Albucasis had all alluded to it, but evidence is wanting to prove that any of them had practiced it. Certain it is it was not in use at that day, and its employment by Pare brought upon him violent and unmerited abuse. Thus Gourmelen

called him a blood-thirsty, cruel rascal. In book 12, chapter 24, Pare explains the circumstances which led him "to devise this new form of remedy," wherein he "confesses" that he formerly used the actual cautery, "which thing can not be spoken, or but thought upon without great horror, much less acted;" and for having followed "this old and too, too cruel way of healing," he thus laments: "Whereof I am ashamed and aggrieved." He believed that this new method came to him by inspiration. "I think it was taught me by the special favor of the sacred Deitie; for I learnt it not of my masters, nor of any other, neither have I at any time found it used by any. Only I have read it in Galen, that there was no speedier remedy for staunching of blood than to bind the vessels through which it flowed towards their roots, to wit, the liver and the heart."

Pare introduced podalic version in difficult labors; was first to employ the twisted suture in operations for the cure of hare-lip; first to extract loose cartilages from the knee joint; and first to reduce dislocations of the shoulder by the heel in the axilla. His works abound in ingenious devices, some of which have been claimed to be of recent invention. For example, a saw in every respect like Hey's; a club-foot boot, such as that devised by Syme; fine models of artificial legs, hands, noses and ears; also figures of drainage tubes, etc. Pare was a voluminous writer. His collected works make a ponderous folio of over a thousand pages. The first edition was published at Paris in 1575, having been amply illustrated with three hundred engravings, which cost him three thousand livres. It was dedicated "to Henry the third, the most Christian king of France and Poland." The following is an extract from the preface, as translated by Johnson, London, 1634:

"For God is my witness, and all good men know, that I have laboured fifty yeares with all care and paines in the illustration and amplification of chirurgery; and that I have so certainly touched the marke whereat I aimed, that Antiquity may seeme to have nothing wherein it may exceed us, beside the glory of invention; nor posterity any thing left but a certaine small hope to adde some things, as it is easie to adde to former inventions. In performance whereof, I have been so prodigal of myself, my watchings, faculties and meanes, that I spared neither

labor nor cost, whereby I might satisfie and accomplish my own desires, this my great work, and the desires of the studious. Neither may we doubt but their studies would at the length waxe cold, if they only furnished with the Theorick and Precepts in Schools and that with much laboure, should see no manuall operation, nor manifest way of performing the Arte, For which cause I seeking the praise and profit of the French Nation, even with the hinderance of my particular estate, have endeavored to illustrate and increase Chirurgerie hitherto obscure either by the infelicity of the former ages, or the envy of the Professors; and not only with precepts and rules, but being a lover of carved workes, I beautified it with 300 formes, or graven figures and apt delineations, in which whosoever shall attentively looke shall find five hundred anatomicall or organicall figures belonging to the Arte (if they be reckoned particularly). To every of these I have given their names and shewed their use, least they should seeme to have beene put in vainly for ostentation or delight."

This work has passed through numerous editions, and has been printed in French, German, Dutch and English. The following is as complete a list of the several editions as I have been able to compile: French, *Paris*, fol. 1575, 1579, 1585, 1598, 1607, 1614, 1628, octavo, 1840-1. Latin, *Paris*, fol. 1582; *Frankfort*, fol. 1594, 1610, 1612. German, *Frankfort*, fol. 1601, 1635. Dutch, *Leyden*, fol. 1604. *Amsterdam*, fol. 1615, 1636, 1649. *Harlem*, fol. 1527. English, *London*, fol. 1634, 1678.

It is difficult to write a short sketch of Pare, so much can be found in his writings worthy to be mentioned. His stature was tall, his figure slender, his countenance grave and dignified. All his portraits represent him in his court dress, with the frilled collar characteristic of the age. The portrait which adorns this number of the *Annals* is a reduced *fac-simile* of the one in the first and most magnificent Latin edition of his works, published at Paris, in grand folio, during the lifetime of Pare.

Medico-Chirurgical Society.

Stated Meeting, August, 1879.

CHRY SOPHANIC ACID IN PSORIASIS.

Dr. Hardaway.—I wish to exhibit to you this young gentleman whom I have been treating for a diffuse psoriasis. The remedy employed by me was chrysophanic acid and the result, so far as dissipation of the eruption is concerned, has been truly remarkable. You will observe on this patient numerous dead white patches, surrounded by areas of dark, brown-looking skin; but on close inspection, you will note that these spots are destitute of scales, and entirely supple and smooth to the touch. This abnormal coloration will shortly disappear, leaving the integument normal in appearance. The rapidity of effect obtained by the chrysophanic acid treatment, as compared with former methods, is interesting; a week, under this remedy, will accomplish more, as a rule, than a month's persevering use of other drugs, whether locally or constitutionally administered, or both combined. I should like to say in regard to this drug, that it is a powerful stimulant to the skin, and, therefore, must be used cautiously, and not over too large a surface at one time, as you may get up intense erysipelatous inflammation of the surrounding healthy skin by its injudicious application. I believe that in the majority of cases an ointment of from 15–30 grs. to the ounce, is sufficiently strong. In passing, it may be said that chrysophanic acid is an effectual local application in all parasitic affections, and has proved very serviceable in lupus. Great care should be taken, if indeed it is at all safe, in applying the acid in the neighborhood of the genitals and about the face, as it is apt to cause marked edema in these parts.

The chief objection to the drug is its bad quality of staining the skin, dying the hair, and utterly ruining underclothing and bed linen, but these various inconveniences may be avoided with a little care.

Dr. Prewitt.—That is a very interesting case, especially in view of the success of the treatment. Psoriasis is a symmetrical disease, and Paget has laid it down as a rule, that all symmetrical diseases are blood diseases, and why a local application should cure a disease of that kind, is

surprising; but that it should be beneficial is not. I have always given these cases constitutional treatment as well, and I find that they yield quite readily, although not as promptly as this one has done. I do not suppose chrysophanic acid has any specific properties, merely improving the local nutrition of the part, as do the tarry and other stimulating applications formerly recommended. The history of psoriasis shows that it returns sooner or later in all cases, and if it can be proved that this new method of treatment permanently removes the disease, the acid should be considered a very marvelous agent. For my part, I scarcely believe that psoriasis is an affection that can be eradicated by merely local means.

Dr. Hardaway.—I make no such claim for chrysophanic acid. The disease will as surely relapse after its use as after the use of other drugs. I claim merely for chrysophanic acid, that it will remove the local trouble more rapidly than any other remedies at our command. Again, psoriasis will relapse after the most rigorous constitutional treatment. If arsenic, or any other so-called constitutional specific for psoriasis, alone or combined with local treatment, would cure the disease more rapidly, or cause few relapses, than under a purely local treatment, I should say by all means use such measures; but such does not seem to be the case—the recurrences seem to be as frequent as when local remedies only are applied. Then why plague a patient with internal medication for the sake of a theory, whether true or false it matters little, if the results do not square with the hypothesis?

ENLARGED CLITORIS—RUDIMENTARY VAGINA.

Dr. Carson.—Some three weeks ago I had a case, which may be of some interest to the Society. A woman with a well-developed child about five years of age, came to me and said there was something the matter with the child's vagina. Upon examination I found a clitoris about one inch in length, and upon each side a large prominence which I thought might be testes, but which, upon examination, proved to be nothing other than a prominence caused by an excessive supply of adipose tissue. Raising the clitoris I found it hung between the thighs, covering a small opening about the size of the head of a large pin. I could pass a probe about an inch downward, and by curving the probe, it entered a distance of about one

and a half or two inches downward and backward, showing a rudimentary vagina to be present.

The mother asked my advice with regard to an operation. Of course, I advised against it. She wished to know if the child was an hermaphrodite; I told her it was what is usually termed an hermaphrodite, but there was nothing more than an excessive development of the clitoris. The prominences on each side of the clitoris were very marked, and looked as if they might contain testes, but were nothing more than adipose tissue. The opening extended from that small opening, which was no larger than the head of a pin, to the anus. There was a little opening at the end of the clitoris, which appeared to be very much like an opening into the urethra, but, in attempting to pass the probe, I found it was merely a blind sac. There were also folds of skin which seemed to give it the appearance of the penis exposed. On the whole it presented very much the appearance of a penis. On examination I found the opening into the bladder back behind the clitoris in the natural site, may be a little further advanced.

Dr. G. A. Moses.—I have never seen but one case of the kind. So much depends upon the development of the child, and the development of the parts, that it is hard to give a general rule by which to treat such cases. If there be a properly developed vaginal canal above the occlusion, if the occlusion appear to be simply a partial one, or an exaggeration of the hymen, I think it just as well to let it alone until development is completed. I do not see any reason for hastening the operation. After development has progressed beyond the period of childhood, we can then judge pretty well as to the amount of deformity that exists, and can operate with much more intelligence, whilst if we operate too early it may be necessary to repeat the operation at a later time.

Dr. Ford.—I agree with you. But the advice is very often given to let these cases alone until menstruation has occurred, while probably it has always to be done before menstruation occurs.

Dr. Moses.—I think we should wait at least until the approach of maturity. In early life, it is impossible to make a thorough examination of the parts; you can not tell the size and position of the genital organs, and

it would be operating entirely in the dark as to the future.

Dr. Carson.—In this case, the vagina was not imperforate. There was an opening leading into the rudimentary vagina, and I took it to be more than probable that there was to be no menstrual flow.

Dr. Ford.—If there is a uterus, there must always be a menstrual flow, no matter how ill-formed the vagina may be.

Dr. Moses.—Dr. Ford has made a statement, that if there be a uterus, there must be a menstrual flow, which recalls to my mind two cases. A few days ago a gentleman who had been married about eighteen months or two years, brought his wife to me. She was a well-developed woman, about twenty-five years old. She had never menstruated in her life. She had a perfectly formed vagina, and, so far as the examination went, the uterus was perfect. I did not explore the cavity, because it was not convenient for me to do so at the time. She had never had any menstrual discomfort. She had well-formed mammae and was an extremely well-formed woman externally.

That was a case of absolute amenorrhea. Occasionally, in what is known as infantile uterus, we find scarcely any menstruation.

Dr. Ford.—All I meant to imply was, that the exception to menstruation in anomalous cases is not more frequent in proportion than in normal cases, that it must be taken for granted that there will be a flow from the uterus, and that if there is any impediment to the passage externally, of course it will give rise to severe symptoms when an attempt is made to open it.

Dr. Prewitt.—In cases where there is an imperforate hymen, it would be better to make an opening. Such cases are likely to be put off until the patient commences to menstruate and suffer from the consequences of the suppression of the menstrual flow. It seems to me that where there is an imperforate hymen, it is better to make an opening whenever it is discovered. Of course, if there be an occluded vagina, this would be a difficult thing to accomplish, and, as Dr. Moses suggests, there might be such imperfect development that menstruation would not occur at all. So it would be better to wait until adult life.

Dr. Moses.—The only difficulty is to decide early in life whether it is simply an imperforate hymen.

CEPHALHEMATOMA.

Dr. Moses.—I saw, this afternoon, a negro child about three years old, that has had an interesting medical history. It is perfectly black and the mother is blacker, if possible. I attended the child some two years ago for some cerebral trouble, when it was in a condition almost of coma for several days. It has a peculiarly formed head. The line of the sutures is very prominent. Two years ago it fell from a chair and sustained a fracture of the femur. It was then just beginning to toddle about. As a result of this fracture, it crawled for about a year longer, and during that time the extremities of the bones of the forearm became enormously developed. The mother says that about two or three weeks ago, the child had a bump on the head about the size of a hen's egg. She took the child to a physician in the neighborhood, who considered it an abscess and lanced it. Nothing came but blood. Very soon afterward this swelling began to increase, and the child was taken to Dr. Gregory. He simply advised that the child be let alone. The child afterward came under my care. I took it to be hematocele, which had extended until the whole of the scalp was entirely dissected up. The scalp seems to be perfectly loose, and at several points I can feel the bony skull through this mass.

There has been no pain upon handling the head, no pulsation, no history of a blow.

Dr. Hardaway.—There is a condition which my friends, the surgeons, are very apt to mistake. Sometimes, over a surface as large as the palm of my hand, the hair will fall off, the scalp will very suddenly become swollen, with every appearance of an abscess, and sometimes in pressing the finger into this, you will find a well-marked ridge upon the surface. It is the most deceptive thing in the world. It is simply an exaggerated ring-worm. I mention it because the tendency to put the knife into it is almost too strong among surgeons. There is no pus there at all. If you examine it closely you will find a glutinous substance oozing out of the scalp. It is simply an exaggerated tinea tonsurans.

Dr. Prewitt.—I have seen several cases of that kind, but I have never seen such a one as Dr. Hardaway describes, with a ridge on the border which would simulate a hematoma.

In Dr. Moses' patient there has probably been some rupture by a blow, and the blood has been oozing out ever since.

Dr. Moses.—I think there must have been a blow originally. The scalp is perfectly loose, you can move it all about. Tip the child over, and it will fluctuate perceptibly.

Dr. Ford.—Very considerable hemorrhage may occur in that part from slight injury. I remember a woman who had had a slight falling out with her husband. He caught her by the arms, she fell over on the floor, and his knee struck her heavily. There was a very considerable effusion of blood, I suppose not less than two quarts, within a short time within the abdominal cavity. She fainted and remained with all the symptoms of internal hemorrhage and recovered very slowly. By changing her position I could see the tumor move. No peritonitis.

LABIO-GLOSSO—PHARYNGEAL PARALYSIS.

Dr. Bauduy.—My friend, Dr. Glasgow, has alluded to a case in which the patient, a lady, æt. 60, was unable to talk or protrude the tongue. There was very decided furrowing of the tongue, accompanied by vermicular movements. These conditions of the tongue plainly pointed to an involvement of the hypoglossal nerve. In addition to the lingual paralysis, there also existed a paralysis of the orbicularis oris, which, of course, favored the dripping of saliva, with inability to whistle, blow out a candle, suck or kiss. There was also some involvement of the glosso-pharyngeal. She is liable to attacks of strangulation, the dysphagia is so great that she is compelled to live almost entirely on liquids or take her food very finely minced, and even then she has attacks of choking, making her sustenance a matter of great gravity. Another complication, so far as the pathology and symptomatology are concerned, is a well-marked progressive atrophy. Usually, in such cases, there is no involvement of the anterior spinal cornua, the disease being strictly bulbar. Recent writers, however, claim that a degeneration of the trophic nerve cells of this vicinity, is not a very infrequent complication, resulting in more or less muscular atrophy. Such a condition is well developed on the left side of her body, and involves many of the voluntary muscles, and produces the most characteristic

"*main en griffe*" I ever witnessed. The thenar and hypothenar eminences on that side have entirely disappeared with corresponding atrophy of the interossei muscles. Weakness on the left side of the body is thus produced, so that she stumbles and falls very readily. There is also involvement of the sterno-cleidomastoid, and the trapezius muscles, thus pointing to muscular degeneration of the spinal accessory. There is no evidence of aphasia, agraphia, nor amnesia. She writes with perfect facility, having little tablets, by means of which she is accustomed to express her ideas, and converse most intelligently. When she is impatient, or desirous of expressing herself, she makes use of certain inarticulate sounds, which have a meaning to those of her family constantly with her, but which I am totally unable to comprehend. I have never heard her successfully attempt to articulate a single word. The absence of aphasia and agraphia prove conclusively the bulbar origin of the affection. There is bulbar degeneration of the nuclear origin of certain nerve cells of the fourth ventricle. The only relief which she received at any time was from faradization of the tongue, and that was only temporary, while under the care of Dr. Glasgow, who kindly referred the case to me.

Dr. Ford.—I was led to think of a case pointing to the traumatic origin of diabetes. Early in life he had a fall from which he suffered and was obliged to give up his trade. Diabetes developed, and along with the diabetes there has been a considerable salivation, a complication which is of frequent occurrence in these cases.

Dr. Bauduy.—Jaccoud, in his classification of the etiology of diabetes, speaks of one cause as being due to encephalic lesions of bulbar origin, also lesions of the spinal cord, especially in the dorso-lumbar region. Traumatic influences acting directly or indirectly upon the brain are powerful causes according to him of glycosuria, but do not cause a veritable diabetes.

HEMORRHAGE FROM THE GUMS.

Talking of diseases of the mouth, I had a case last week which puzzles me very much. This person was anemic and had some edema of the lower extremities, the result of valvular disease of the heart; but no anasarca existed.

He had a pale, pasty complexion, which is very characteristic of some organic disease of the kidneys, but I have never been able to find any casts or renal epithelium, although the urine contained albumen. This young man was really bleeding to death from a flow of blood which seemed to well up from one of his lower incisor teeth. For this I tried various styptics, but without the desired result, and the patient became weaker and weaker. He had been attended by a physician who used a good deal of mercury, but there was no marked salivation. One morning, finding that he was actually dying of hemorrhage, I sent out for a stick of lunar caustic, and forced the point between these two incisors and held it for a few minutes with the effect of controlling the hemorrhage, and ever since then, whenever the bleeding would commence again, I have had no difficulty whatever in controlling the hemorrhage in the same way. Now, whether the bleeding is due to a general diathetic condition I am unable to say; but he had no symptoms that would point to hemorrhagic diathesis. It struck me as a rather anomalous condition. I would like to know whether any other gentlemen have had a similar experience, and what in their opinion this hemorrhage was due to. There had been no injury, no fall, no blow. He has never had any febrile exacerbation that I could discover.

Dr. Ford.—Any scurvy?

Dr. Bauduy.—None that I could discover. He was a well-nourished man and had not been living on salt meat, in fact, his gums presented no scorbutic appearance.

Dr. Robinson.—I have seen a somewhat similar case to Dr. Bauduy's, having all the symptoms and general appearances of scurvy in a young man having the best of diet. He had a great feeling of lassitude and pain in the back, indisposition for any effort whatever, could scarcely walk two or three squares without a great sense of fatigue. His gums are spongy and his tongue and lips are covered with aphthous patches. Now, I could not make out what could possibly be the cause of such a condition. I put him on muriated tincture of iron, vegetable acids, etc., and he improved somewhat, but he improved so slowly and his case progressed so unsatisfactorily that I advised him to go away, which he has done, and with excellent result. It must be due to some malcondition

of the blood, undoubtedly. There was no history of any venereal disease.

Dr. Prewitt.—We have hemorrhagic cases with ecchymotic spots over the body, though in the cases I have seen, there is none of this spongy, purplish condition of the gums that you see in scurvy. I have seen several cases of that kind where there certainly was no scurvy.

Dr. Bauduy.—In purpura hemorrhagica the diathetic conditions are generally unmistakable. You have particular eruptions, in the first place; you have hemorrhages under the skin, you have hemorrhages from the slightest injury. I remember Dr. Boisliniere had a case in which he tried every means, and Dr. Pope actually applied a red-hot iron without effect.

Dr. Ford.—I have seen cases of scurvy where it could not possibly be attributed to salt meat alone—where the parties used fresh meat and corn bread. A few days ago a gentleman told me that some twenty-five years ago, when he moved to California, in crossing the plains, he subsisted for eight days on game and corn bread, and that when he got half way across, he found the fauces and gums were very much affected and began to bleed; his teeth were loosened; he even pulled out one or two with his fingers. He then sent for sugar, coffee and limes to a neighboring Mexican ranche, and subsequently recovered.

Dr. Moses.—Did you see a very interesting statement by Davis, the Arctic explorer, that notwithstanding the fact that his crew were confined to salt meat for a long time, there was not a single case of scurvy among them?

Dr. Ford.—They took plenty of cranberries, coffee, etc.

Dr. Moses.—Everything of that sort had given out.

Dr. Robinson.—Dr. Bauduy's case and Dr. Ford's suggestion, as to the propriety of examining the urine, recall to my mind a very interesting case that I saw about two years ago at a clinic, at the City Hospital, that of a man who had received an injury from a brick falling upon him from a scaffolding, and striking him between the shoulders. He was knocked down and remained insensible for about half an hour, but after recovering from the immediate effect he went about his business, and was active and on duty for about two weeks, at the end of which time he commenced to have some feelness of numbness in the lower limbs. At the same time, their power became less and less, but before complete paralysis took

place, his upper extremities began to manifest the same sensations, and finally became paralyzed. Then the whole of his face gradually became paralyzed, until his face was exactly like a mask, without any mobility whatever. When he first came to the hospital he was perfectly helpless, and presented the appearance of a corpse. I suppose there had been an inflammatory action caused by injury to the spinal cord, traveling upward, and the floor of the fourth ventricle was affected probably, and I suggested the propriety of examining the urine. Dr. Dean examined the urine himself, and found sugar, which confirmed my position that the fourth ventricle was affected. The man remained in the hospital for some time. One side of his face began to improve, on the use of electricity, then the other, then the upper extremities, and finally the lower extremities, and when I last saw him he was in a fair way to complete recovery.

But the interesting point, I think, was finding sugar in the urine, in assisting to locate the seat of the lesion.

We did not use electricity until we supposed the inflammatory action had ceased. When I first saw him there was some elevation of temperature which gradually diminished.

Locomotor Ataxia.

Translated from the *Gazette des Hopitaux*. By G. T. McKEOUGH, M. B., M. R. C. S., Eng., etc., Chatham, Ont.

I HAVE had this patient brought into the amphitheater, in order that we may study together the principal phenomena which he presents. Explained in this manner they will be more deeply impressed on your minds. But I ought first to relate to you the history of the case.

He is a man thirty-eight years old, a sculptor, formerly a soldier, and while serving as such he underwent successive fatigues during the siege of Paris. In 1871 he contracted syphilis, which affection produced its ordinary evolution; namely, after the chancre the secondary eruption, etc. His health afterwards was very satisfactory until the year 1876. At this period, without any known cause, appeared some peculiar phenomena relative to his sight; the man could not see well; he could distinguish the top of objects, but could not see parts situated toward

the base; he could not see the earth. At the same time he thought he saw objects dancing about, as if he was drunk. These troubles of vision lasted a fortnight and then disappeared. Some months later, in November, 1876, the patient was seized with persistent pains in the calves of his legs, but these pains were not "shooting" in character; they were more the sensation of a violent burning, "as if he had had thrust a red-hot fire-brand into the calves of his legs." These symptoms lasted only a few days, then, once again, all abnormalities disappeared. Nothing abnormal with respect to his head or stomach.

It was in the month of January, 1877, that the patient first perceived that he staggered, and had difficulty in walking straight. His muscular force was not diminished, but, when taking long walks, he felt that he was less master of the movements of co-ordination of his legs.

These phenomena soon became more accentuated; his walking became more distressing, his calves, thighs and limbs were traversed by true fulgurating pains. His gait became more and more difficult during the winter of 1877; his strength diminished sensibly, but the patient had not yet perceived the sensation of "down" under the soles of his feet in walking. Constricting pains around the chest, in the region of the sternum, appeared now, the helplessness of his limbs augmented, standing upright became difficult. Then a remarkable phenomenon manifested itself. The man was in company with some friends, when they remarked to him that his left eyelid had fallen, covering the eye more than on his right side. Some days after he noticed besides, that his left eye squinted, and that he saw double. These phenomena were but transitory, and after a few months scarcely a trace of them remained.

But while the symptoms affecting the eyes disappeared, those affecting the limbs were accelerated, and especially the lower extremities, where the helplessness and the in-coordination in walking became so pronounced that the diagnosis of locomotor ataxia was no longer doubtful.

Some special phenomena appear yet to complete the clinical picture of this affection; troubles of micturition, difficulty in urinating, paralysis of the bladder, necessitating the use of the catheter. Sharp pains in the stomach declare themselves, and persist a long time.

After having given the pathological history of this man,

let us now examine his present state. I will interrogate him before you, and you will see his manner of keeping himself upon his feet; he says that he staggers, that he feels "as if he was on springs, on something that was pushing him upwards." Standing in the erect posture is difficult. In order to progress forward, you see he is obliged to support himself, that he projects his legs to the right and to the left, and that he "heels it," as they say. When he walks it appears to him that he is walking on thick carpet. Some patients believe even that they walk on sponges. If we make him close his eyes he can no longer stand upright; he falls immediately he is deprived of the aid of sight. Sensibility is, however, not abolished, but he has himself remarked to us that there is a retardation in his tactile sensibilities, and that when he knocks his foot it is sometime before he perceives it. You can also ascertain, that, notwithstanding the apparent feebleness of his muscles, it is absolutely impossible either to flex or extend his leg. He supports, likewise, a heavy burden; the weight of a man mounted on his shoulders does not make him flinch. His weakness is then only apparent; there is something which hinders him from making use of the muscular force still intact. As to his upper extremities, there are no marked disorders. He perceives, however, that he does not draw well, and that his writing is a little shaky; there exists a slight trembling of the hands.

But there is another phenomenon rather singular, which ought for a moment to arrest our attention; that is, a considerable diminution in the size of his left forearm, the circumference being about a centimetre (about one-third of an inch), less than the right forearm. You observe, also, that the left hand is thinner than the right, that the thumb approaches nearer the index finger, and that he can not extend it beyond a very feeble acute angle, whilst that of the right hand can make, with the index finger, a right angle. This is owing to the disappearance of the muscles of the ball of the thumb ("thenar" eminence). There is muscular atrophy on that side; it is that which hinders the movements of the thumb, diminishing its amplitude, and interfering with its movements in opposition to the other fingers (monkey's hand). Notice, however, the exaggerated contraction of the pupils and the remains of divergent strabismus.

Sensibility is preserved in his limbs and in his hands. The state of his general health is very good. As regards his genital functions, "he believes he could still perform them."

All these facts being disclosed, it remains for us to give a name to this collection of divers phenomena. A diagnosis is here required: it is progressive locomotor ataxia, characterized, as you know, by sclerosis of the posterior columns of the spinal cord. We have all the precursory details, and all the most characteristic symptoms. Remark how insidious is the onset, and how it deviates at first from the signs of an affection of the cord. The primitive symptoms, disturbance of vision, of hearing, etc., are only transitory, but they barely disappear, when there appear more evident signs, defects of the equilibrium, transitory fulgurating pains, the peculiar projection of the feet, of the heel, retardation in the perception of sensations. There is, however, no marked disturbance of sensibility. It must not be believed that all ataxics present anæsthesia, and it is wrong to attribute the incoordination of the movements in walking to disturbance of sensibility.

The visceral phenomena have been very marked in our patient; the stomach, the bladder (cystitis of the neck and muscular paralysis) have presented special characters, in accord with the fulgurating pains in the limbs. But it is the muscular atrophy of the left upper extremity which is the most remarkable feature in this case. It is not true progressive muscular atrophy. That which we observe is confined to a group of muscles, especially to the ball of the thumb—muscles of the thenar eminence. It does not spread; it is confined simply to a small sclerosed center of the posterior cells of the cord, toward some of the motor cells of the anterior cornu. Although this phenomenon is rare, it is not unknown in locomotor ataxia.

What shall I say of the prognosis? It is sad to admit, but it is very grave, the disease always progresses from bad to worse. If some of the collateral phenomena at the beginning have been transitory, see how progressive are the constituent features of the disease. The gait becomes more and more difficult; next the impossibility of drawing, writing, etc. But the duration of the disease is long, and its progress slow. You have seen in our service an ataxic man, lying in No. 12 bed, St. Charles Ward,

during the past eighteen months, who is absolutely unable to move any more, who has become completely powerless, speaking with difficulty—reduced, in a word, to the state of a piece of furniture, inert and blind, although his intelligence is relatively preserved, and he has still some memory.

As regards therapeutics, alas! we have no means whatever of curing or arresting this affection. We can only alleviate the symptoms. The external remedies, which are the most efficacious, are the cutaneous revulsives along the tract of the vertebral column; such as dry cupping, blistering, the actual cautery, and sulphur baths every other day. Internally, benefit is obtained from the use of iodide of potassium, which acts by absorbing the connective tissues in a state of proliferation. It is the best remedial agent we have; it does not cure but it relieves, and retards the progress of the disease. Nitrate of silver, in doses of one-fifth of a grain per day, has an action somewhat similar to that of iodide of potassium. It is best to employ them alternately, each for a fortnight or three weeks. We owe to them a sort of half success. The painful symptoms occupy a large place in the treatment of this affection. We relieve them by hypodermic injections, by chloral and applications of chloroform. We should endeavor, finally, to combat, as much as possible, the long and cruel sleeplessness which affects patients suffering from this disease so much, and who, as I have told you, having preserved their intelligence, are all the more impressed by their sad situation.—*Canada Lancet.*

Brooklyn Pathological Society.

MALIGNANT LYMPHOMA.

DR. WESTBROOK presented microscopic specimens from a case which had occurred in the practice of Dr. D. A. Dodge.

History: Dr. Dodge first saw him professionally on the 1st of February, 1877, when "he had marked tertian symptoms: enlarged liver, complete anorexia, a feeling of constriction about the upper part of abdomen, impeding respiration, and extreme mental depression. These symptoms soon followed by a slight icterus, afterward changing to a bronze hue; clay-colored stools. Improved

slowly, and slightly, until May, when he sailed for the south of France, where he gained slightly until August, when he was, without warning, seized with an alarming hæmatemesis, which almost exsanguinated him. From that time he never recovered his color, but was of a waxy hue. Subsequently he had two or three attacks of hemorrhage, and returned home in June of this year (1879), being two years and four months from the beginning of his sickness. He then had several enlarged glands in the inguinal region, and, as he progressed to his end, fresh glands showed themselves in every part of the body. The post-cervical glands and epitrochlear glands showed notably. The spleen gradually showed itself more and more. The bowels continued astonishingly regular, and only once or twice, for a day or two, did the color of the faces deviate from the natural. Swallowing finally became impossible, and he died of anorexia. There was a history of syphilis twenty years before, but Dr. Van Buren, who saw the case with me, was positive that it had nothing to do with the disease of which he died. I may add that he was an importer of French wines, a free liver, but far from intemperate. His father died of cancer of the stomach."

The autopsy was made by Drs. Harvey and George R. Westbrook. The *lymphatic glands* were everywhere enormously enlarged, forming tumors in the inguinal and axillary regions. In the *thorax*, they compressed the trachea and esophagus. The *liver* was not markedly enlarged, but contained innumerable white spots and stria following the course of the vessels. The *spleen* weighed 90 oz., was dark red, and filled with white masses, being in size from a pin's head to a pigeon's egg. Microscopically, the appearance was that of lymphadenoma. The blood was not examined.

EXTREME DEGREE OF FATTY DEGENERATION.

Dr. Westbrook presented a piece of a liver which had undergone extreme fatty degeneration, together with a microscopic preparation illustrating the histology of the same. The patient, an Irish woman about 50 years old, was admitted to his ward in St. Peter's Hospital, complaining of debility and cough. She was quite obese, and the fat was soft and flabby. Her countenance had the red color of habitual drunkenness. The alimentary canal

was not notably deranged. Physical exploration showed a diminished elasticity of the lungs. The heart-sounds were feeble, the pulse exceedingly weak, regular and varying at about 100 per minute. She had a small amount of whisky, and a tonic mixture. On the second day after admission she became delirious, having delusions and hallucinations. Twenty grains of chloral with as much bromide of potassium were given at night, the whisky increased, and a dose of tr. nux vomica with Huxham's tincture, administered every three hours. She slept better the following night and had less delirium. On the third day the nux vomica, etc., were administered during the day, but at 11 o'clock in the evening she died very quietly. No chloral was administered that day.

Post-mortem: The *heart* was found to be exceedingly flabby, light-colored and friable. The *lungs* somewhat emphysematous. The *liver* of a light yellow color, and of such slight sp. gr. that pieces of it floated on water. The *kidneys* were similarly degenerated. The heart was not opened. Microscopically the hepatic cells were so distended with fat that the section resembled adipose tissue.

ENTERIC FEVER.

Dr. Westbrook presented portions of the intestine showing the typhoid ulcerations from a patient who had died in St. Peter's Hospital. The point of interest about the case was the profuse sweating which had occurred almost daily throughout the period of her sickness—about four weeks—and which had led to the suspicion that some pulmonary or other complication existed which he was unable to diagnosticate. The autopsy, however, revealed nothing more than usual.

The liver and kidneys showed acute albuminoid changes, and the spleen was enlarged to twice the normal size.

LIPOMA.

Dr. F. S. Stuart exhibited a tumor removed by Dr. A. J. C. Skene on November 30, 1879, from Mrs. L. It had been first noticed about two years ago. "It was found to be imbedded in the under surface of the external oblique muscle on the left side, close to the crest of the ilium. Before the operation it could not be distinctly outlined, as it was close to the ilium, and readily pressed into the fossa. The operation was performed under a

spray of carbolic acid, and the wound dressed after the manner of Mr. Lister. The primary incision was parallel with the crest of the ilium, but, when it was found to be below the external oblique, the fibers of the latter muscle were separated as much as possible, rather than cut, and so the tumor removed. Its longer axis was parallel with the crest of the ilium. Union took place without any suppuration, and the patient was dismissed at the end of a week.

"The tumor was removed because it was growing, and would, in time, have been more difficult to manage." It was made up almost entirely of yellow fat, with very little connective tissue.

GREAT HYPERTROPHY OF HEART—MITRAL STENOSIS WITHOUT ACCOMPANYING MURMUR.

Dr. William Wallace presented this specimen. The following history is contributed by Dr. E. J. Wilson, House Physician to the Long Island College Hospital:

The patient, a Norwegian sailor, 21 years old, gave a history of rheumatism which occurred about two years ago. At that time he fell from the ship into the water, and was subsequently confined to bed. He says he experienced much pain when he breathed hard, walked or coughed; the pain referred to the præcordial region. Since that time he has experienced much inconvenience from shortness of breath, particularly when climbing aloft, ascending stairs or engaging in any brisk exercise.

PHYSICAL EXAMINATION—INSPECTION:—Body not well nourished; an anæmic; prolabia pale; chest smooth and full; pulsation of carotid and subclavian arteries plainly visible. Impulse of apex seen in sixth interspace one inch to the left of nipple. *Palpation* negative. *Percussion*:—Area of cardiac dullness greatly increased, extending $1\frac{1}{2}$ inch to right of sternum in third interspace inferiorly to sixth interspace, and in the left third interspace three inches from the border of the sternum. *Auscultation*:—A murmur occurring with first sound of heart, heard with maximum intensity in third right intercostal space to the sternum, and transmitted upward into the carotids. Also feebly heard in the interscapular region close to the spine on the *right* side. The murmur was soft and obscured the first sound. Another murmur heard in diastole with greatest intensity at the ensiform appen-

dix. The urine was *acid*; sp. gr. 1025. Heat throws down a small amount of albumen; casts of a fatty and granular character. On the 14th of October sub-crepitant rales were heard at the base of both lungs. November 21st, suffering greatly with pain referred to ensiform appendix and also a very severe headache. Heart's action so tumultuous that auscultation was unsatisfactory. Temperature, 103° F.; pulse, 130; resp., 33. November 23d, *crepitant* rales heard in right lung at base over the posterior and lateral aspects. Temperature, 102° F.; pulse, 124; resp., 36. Since January 1st, dyspnoea amounting to orthopnoea has been almost constant.

Autopsy. The heart weighed 34 oz.; thickness of wall of left ventricle, $\frac{1}{8}$ in. The left auriculo-ventricular opening was only large enough to admit one finger. The mitral valve was not present as a movable curtain. The aortic semilunar valves were covered with vegetations, some of which were calcified. The vegetations extended about an inch on the anterior wall of the ventricle. The valves of the right heart normal.

Dr. Wallace saw the patient first only two or three days before death. There was then the double murmur described above. He could hear no murmur at the apex. In reply to Dr. Pilcher, he said that he had not before seen the papillomatous growth extend into the cavity of the ventricle.

Dr. Segur had never seen the extension of the vegetations into the cavity of the ventricle.

ULCER OF STOMACH, WITH PERFORATION.

By Dr. Pilcher: "A. B., male, aged 56 years, suffering for some years from mitral stenosis; his sufferings from cardiac disease had become so extreme as to cause expectation of speedy death; had complained somewhat of dyspeptic symptoms accompanied with obstinate constipation; but these symptoms received but little notice. While in this condition was seized with profuse hæmatemesis, which was arrested, but left him so prostrated that he sank into collapse and died in about thirty-six hours thereafter." The *post-mortem* was made within twenty-four hours after death. In the posterior wall of the stomach was a large opening, of the size of a twenty-five cent piece. Its edges were sharply cut. Behind the ulcer the anterior wall of the pancreas presented, the

edges of the opening being very slightly adherent to that viscus—the adhesion strong enough, however, to prevent the effusion of the contents of the stomach.

PERFORATION OF APPENDIX VERMIFORMIS.

By Dr. Pilcher: "R. M., æt. 54 years; in robust health. After an attack of diarrhea, lasting four days, attacked with pain, not very intense, in bowels, for which a mild opiate was given; after the lapse of three hours pain became agonizing; its maximum intensity being referred to the right iliac region, whence it radiated over whole abdomen. Pain continued uncontrollable; tympanitis became marked, and death ensued sixty-six hours after first symptom of pain.

Upon autopsy the whole peritoneal surface was found injected; buttery lymph covered the serous surface of the intestines, gluing them together; no serous or sero-purulent effusion present. A perforation by ulceration in the *appendix vermiformis*, just within its orifice, as shown in the specimen presented, was found. No foreign body was discovered either impacted in the appendix or loose in the peritoneal cavity. The *gall* bladder was much dilated, and contained over 200 calculi." The autopsy was made thirty-seven hours after death.

Dr. Read was reminded of a case in which he made an autopsy when an interne in the Long Island College Hospital, some years ago. There were seven perforations of the small intestine. The man was brought in by the police, without any history, except that he had been found in a condition of intoxication; but it was subsequently ascertained that up to that time he had been apparently healthy. He died in two days after admission to the hospital. No inflammatory action could be made out. In reply to Dr. Jewett, he said they could scarcely have occurred *post mortem*, as the autopsy was made within twenty-four hours after death.

Dr. John Merritt: Some time last spring a portion of the small intestine with a perforation was presented for me, and, as I was unable to come myself, no history accompanied it. It was from a man who had quarreled and been kicked in the abdomen. The autopsy was made within a few hours after death. It was not a laceration, but an ulceration.

HEMORRHAGIC INFARCTIONS OF THE LUNGS.

Dr. Segur presented portions of a lung showing hemorrhagic infarctions. It was removed from the body of a man who was admitted to St. Peter's Hospital in a dying condition. There was general anasarca.

Post-mortem.—The serous cavities all contained large amounts of fluid. There was valvular disease of the *heart* and chronic contraction of the *kidneys*. The *lungs* were congested and slightly edematous, and contained numerous dark masses of coagulated blood, some of large size. In the kidneys were several cicatrices supposed to be the remains of former infarctions.

HEMORRHAGIC INFLAMMATION OF THE GENITO-URINARY PASSAGES.

Dr. Westbrook: The specimens were removed from the body of a man about 70 years old, who died in the Long Island College Hospital. There was a history of painful micturition extending over a few months prior to his admission to the hospital. When admitted, in the service of Dr. L. D. Mason, he was suffering from retention of urine. Dr. Beasley, the House Surgeon, passed a catheter and drew off about 50 oz. of urine. The latter portion of it was stained a deep red with blood. During the few days of his life in the hospital the catheter was repeatedly used, large quantities of urine, always bloody, being withdrawn. He soon died with exhaustion.

At the autopsy the body was extremely emaciated, but showed no evidence of disease except in the urinary organs and a little nodular thickening of both pulmonary pleuræ at the apices. The kidneys were contracted and hard. The mucous membrane of their pelves and infundibulæ was thickened and dark red with dilated arborescent vascularity. The ureters were similarly affected. The bladder projected as high as the middle of the symphysis pubis and was about the size of a base-ball. Its color externally was dark blue or purple, as if it contained clotted blood. It contained a little bloody urine. The mucous membrane was extremely thick and corrugated (partly due to contraction), dark red and spongy, and bearing everywhere upon its surface a yellowish deposit which was apparently a layer of mucus and phosphatic matter. The urethra was in the same condition and had the same layer of deposit upon it, looking something like a false membrane. In the membranous portion, appar

ently where the catheter had caught in this layer of deposit, the latter was torn up, simulating a laceration of the mucosa itself. In the inferior portion of the *prostate* a fibrous tumor as large as a filbert was found. This had undoubtedly narrowed the urethra.

PUERPERAL PHLEBITIS.

Dr. Stephenson, of St. Peter's Hospital, presented the pelvic organs from a woman dead of puerperal fever. The doctor went, at the request of the sisters of the hospital, to visit the patient, whom he found upon the floor of a garret in the most wretched condition. Two weeks before she had been confined at the seventh month, but, owing to insufficiency of care and nourishment, had remained ill. On his first visit he found her in a burning fever, the temperature 104° F., with diarrhea, pains in the abdomen, a weak and rapid pulse, and great prostration.

She was removed to the hospital and treated with stimulants, opium and sponging of the body with luke-warm water and vinegar. The abdomen was distended, the thighs somewhat flexed, but owing to the low delirium it could not be determined whether she had any pain or not. On the day following her admission the fever increased; the tongue became dry and brown; the delirium was more marked; distention of the abdomen greater; flexion of the thighs increased.

The temperature rose to 106° F., the pulse was very rapid and feeble and the respiration irregular and gasping. The attending physician, Dr. B. F. Westbrook, diagnosed peritonitis, but was unable to determine the cause of it, inasmuch as the vaginal discharge was slight and inoffensive, and neither on vaginal examination or external manipulation could anything but tympanitis be discovered. In the hopes of relieving the thoracic organs Dr. W. inserted a medium-sized operating needle into the intestine on the left side. Considerable gas escaped and the distention was lessened. Cold water was applied to the abdomen, and Quin. Sulph. \mathfrak{D} ij. administered per orem. Stimulants were freely used. She died within a few hours.

Autopsy.—Head not examined. The *thoracic viscera* presented no notable lesions. The intestines were inflated and the peritoneum dry and injected. No trace of the perforation of the needle could be found in the intestine, though the puncture in the abdominal wall was easily

identified. No gas had escaped from the intestine into the peritoneal cavity. The abdominal organs were normal except the *kidneys*, which presented the appearance of acute nephritis. On the left side of the brim of the pelvis there was a tumor about two inches in diameter, which lay upon the psoas muscle. It proved to be the left ovary with its venous plexus, and the corresponding portion of the broad ligament and fallopian tube. The peritoneum and connective tissue were thickened and the veins of the ovarian plexus were inflamed and contained pus. The lower three to four inches of the ovarian vein was also thickened and contained pus. The upper portion of the vein was collapsed.

The uterus presented the appearance common at that time. At the fundus, however, and more upon the left side, a portion of the wall had the dark discoloration of inflamed tissue. No pus was found in the uterine veins. No pyæmic abscesses.

Valvular Lesions of the Heart.

DR. AUSTIN FLINT concludes a clinical lecture on this subject, summarizing the practical points as follows:

1. Cardiac murmurs may represent lesions which, if unaccompanied by symptoms referable thereto, enlargement of the heart not coexisting, and the heart-sounds normal, are to be considered as innocuous. The prediction of grave consequences, under these circumstances, is unwarrantable, inasmuch as they may never occur. Such lesions do not claim medical treatment, nor any extraordinary precautions; and it is desirable that the fact of their existence be withheld from patients, if this can be done with propriety.

2. Patients with valvular lesions are liable to suffer from functional disorders of the heart, arising from causes which have no pathological connection with the lesions. It is highly important to recognize, clinically, this accidental coincidence, in order to exercise a correct judgment as to the prognosis and treatment.

3. Various morbid conditions, other than functional disorder of the heart, may be accidentally associated with valvular lesions, and more or less cardiac enlargement. These associated morbid conditions may be, in a great

measure, responsible for symptoms and effects which seem to denote an advanced stage of the cardiac disease, whereas the latter may occasion but little inconvenience, provided these accessory, co-operating conditions can be removed.

4. Valvular lesions involving either obstruction or regurgitation, or both combined, and having led to considerable or even great enlargement of the heart, under favorable circumstances as regards associated morbid conditions, are often well tolerated indefinitely. There is less reason for a hopeful prognosis, in respect of tolerance, when there is considerable aortic insufficiency, than in cases of aortic obstructive lesions, and those which occasion obstruction or regurgitation at the mitral orifice. The danger of sudden death from aortic regurgitation is lessened by co-existing mitral insufficiency.

5. In cases of orthopnœa and general dropsy dependent on mitral obstructive or regurgitant lesions and enlargement of the heart, digitalis and active hydragogue purgation repeated from time to time, not only afford notable relief, but there is reason to believe that life is sometimes thereby much prolonged.—*Medical News and Abstract. Jan., 1880.*

Syphilis and Mental Alienation.

IN the October number of the *Journal of Mental Science*, our talented fellow-countryman, W. Julius Mickle, M. D., M. R. C. P., an honor graduate of Toronto University, and now medical superintendent of Grove Hall Asylum, Bow, London, has furnished a very instructive detail of cases of insanity, clearly traceable to syphilitic constitutional empoisonment. These cases all presented the peculiar mental phenomena so generally recognized as the distinguishing and special psychical symptoms of that intractable malady first described by French alienists under the designation of *paralysie generale*, but which is now, in Germany and America, usually called paresis.

The most valuable fact connected with Dr. Mickle's cases of mental alienation associated with syphilitic empoisonment, is that this form of paresis is not, as are its others, insusceptible of curative treatment; for Dr. Mickle's notes very convincingly prove that, under the specific line

of treatment which is found successful in secondary or tertiary syphilis, the mental aberration recedes *pari passu*, with the physical disease. This is a most important fact, for though we are not aware that in this Province paresis has yet been often met with in association with syphilitic sequelæ, it is more than probable that its increasing incidence in our large American cities, and to some extent even in our own small ones, might, on closer scrutiny, be found traceable to this cause; and should this discovery be made, our asylum physicians will not fail to derive some ray of comfort from the knowledge that their therapeutic resources are not doomed to eternal failure, as they certainly heretofore have been; and they will regard with warm gratitude the promulgator of so important a fact in the domain of psychiatry. On Dr. Mickle's professional acumen, and unswerving veracity, we are well aware implicit reliance may be placed. We regret that our space will not permit us to transcribe in full the illustrative cases presented by him. As regards the mental manifestations, let it suffice to say that they all perfectly harmonized with those usually met with in the spontaneous form of paresis, which have been so exactly depicted by all the late writers on insanity.

Dr. Mickle, having under his care about four hundred invalided soldiers, has certainly an ample field for observation; and those who have had the pleasure of reading his valuable contributions to the literature of alienism during the last few years, will admit that he has been a most industrious and efficient worker. We may summarize his present observations by simply stating the medicinal treatment successfully pursued by him in these typical cases:

1st. An artillery soldier, age 29, of ten eight-twelfth years' service. He said "he was the Everlasting Son of the Most High," etc., etc. The fact of syphilitic complication having been discovered, the treatment adopted was as follows: *R.* Potassi iodidi grs. viii; Hydrarg. perchloridi gr. one-tenth; Ammon. carb. grs. iv. *ter. in die.* This course was continued from his admission, 14th January, till 13th February, 1879, without any distrust of mercurialism. He gradually lost all his delusions, and was discharged recovered on 17th May. Dr. M. remarks: "That this was a case of syphilitic insanity was quite clear. *Intense syphilitic cranial pain*, ending in insom-

nia, stupor and delirium, and this in mania gradually undergoing transformation into a form of monomania, and steady recovery under specific treatment. These were the chief phenomena."

We would call particular attention to the words above, placed by us in italics, as of most valuable diagnostic significance, for it has been our observance that ordinary, spontaneous paresis is seldom, if ever, characterized by *cranial*, or indeed by any other, pain. Its subjects are almost always gay, restless and painless; and they invariably assert that their health never was better, or, to use their own stereotyped phrase, they are "first rate." Dr. M.'s two other cases were, with trivial deviations, treated similarly to the preceding, and with like pleasing result. Cranial pains, which we have above noted as valuable diagnostic symptoms, were present, with other syphilitic indications.—*Editorial in Canada Lancet.*

Color-Blindness and Other Defects of Vision in Railroad Employes.

THERE has been much sensational talk of late regarding color-blindness among the employes of our railroad and marine services, and, if we were to believe the current rumor, accidents have been daily happening on account of the inability of engine drivers and signal-men to distinguish between the colors indicating safety and those warning against danger. The subject has even been taken up by the enterprising novelist, and tales of harrowing interest have turned upon the errors of purblind points-men.

Exactly how much truth lies at the bottom of this belief in the general prevalence of color-blindness has heretofore been difficult for any but experts to determine; and indeed the data necessary to form an intelligent opinion have been wanting. As a contribution to our knowledge of the subject, the recent report of the Massachusetts State Board of Railroad Commissioners possesses much interest; the more so because the Board has had the benefit of the advice and experience of Dr. B. Joy Jeffries, who is so well known as a specialist in this direction.

The colored worsteds recommended by Prof. Holmgren

were used in the investigation, and also colored flags and lanterns. A large number of railroad employes were personally examined by the Board, which also corresponded with foreign authorities as well as American railroad men, and we shall endeavor to give a brief resume of the facts which the Board has ascertained, and the conclusions to which their investigations have led them.

Color-blindness, as is known, may be either total or partial, and partial color-blindness may be subdivided into complete color-blindness, including red, green, and violet blindness; incomplete color-blindness, where the sense as to one or more colors is feeble. The varieties of practical importance in railroad management are total color blindness and red and green color-blindness; the last two colors being very generally employed as signals.

It need hardly be said that such a defect is a source of danger while railroad trains are run by colored signals. It is true, however, as the Massachusetts Commissioners confess, that no railroad accident has ever been traced to this cause. But the possibility of such an accident is beyond question, and, indeed, one employe among those examined had, it was found, led several engine-drivers into errors for which they had been reprimanded. No doubt existed that he did this by displaying the wrong signals. The mere fact that an individual placed in front of a number of colored worsteds may make mistakes in the endeavor to match red with red or green with green does not prove that he is incapable of distinguishing railway signals. It is also to be noted that color-blindness is often connected with good vision in other respects, and particularly with a quicker perception of faintly-illuminated objects; so that, contrary to common belief, our railway signals are safer, so far as liability to mistake by the color-blind is concerned, by night than by day. It is said that some color-blind engine-drivers, who distinguish colors successfully, do so by guessing at the colors by the varying intensity of the light. But for practical purposes, the sensation of color being subjective, it makes little difference how he distinguishes colors, so long as he does so rapidly and unerringly.

It has been ascertained by the investigations of Dr. Keyser, of this city, that about three and one-half per cent. of all the employes on the roads terminating in Philadelphia (excluding those on the Pennsylvania road, not ex-

amined) have defects of such a character as to make them really incapable and unsafe to occupy the positions they hold. A similar percentage has been ascertained by other observers to exist generally. It appears to be the opinion of the Massachusetts Board of Railroad Commissioners that examinations as to color-blindness may be made as well by laymen as by experts; but this view is not a safe one, and in any investigation with pretensions to thoroughness an expert should certainly be included among the examiners.

A matter of equal importance to the occurrence of color-blindness among railway employes is that of defective vision; and it appears that heretofore our railway companies have not been sufficiently careful in the examination of those in their employ holding responsible positions requiring clearness of vision. It is not usually the defect of near-sightedness which impairs the usefulness of railroad employes, but rather the gradual impairment of vision from old age or other causes. The members of the Board, while they can not speak of any railroad accident as resulting from color-blindness, do know cases where defective vision has led to such accidents.

The final conclusions of the Board are: 1. That the existence of color-blindness, total and partial, is a well-established fact, and that there are men who, by reason of such defect, are unfit for positions on railroads requiring ability to distinguish color-signals. 2. That the extent of dangerous color-blindness, *i. e.*, such color-blindness as unfits persons for railroad employment, has been greatly exaggerated, and that a very small percentage of persons are, for this reason, unfit for such employment. 3. That examination may be properly made by persons not medical experts; and that such examinations will certainly be sufficient if doubtful cases are referred to such experts. 4. The Board recommends that every railroad company shall have an annual examination of every employe whose duties require or may require capacity to distinguish form or color-signals, and that no one shall be so employed who has not been thus examined. The examination should refer to color-blindness and to other defects in vision. It should include all who are in any way concerned in the movement of trains. 5. The Board does not recommend any legislation on the subject. The interest of each corporation is strong enough to insure careful examination.

Philadelphia County Medical Society.

AN adjourned conversational meeting of the Society was held at the hall of the College of Physicians, Philadelphia, December 17, 1879, Professor Henry H. Smith, President of the Society, in the chair.

SKIN-GRAFTING.

Dr. Laurence Turnbull made some practical remarks on skin-grafting, and exhibited photographs from a remarkable case occurring in the practice of Dr. Hayes, of Tralee, Ireland. The patient was exhibited before the meeting of the British Medical Association.

Dr. Charles B. Nancrede, from considerable experience of skin-grafting, had come to the conclusion that when they are successful the new epidermis is more apt to break down and ulcerate than surfaces cicatrized in the ordinary manner. In cases of leg-ulcer he had repeatedly seen the new surface break down and disappear very rapidly after grafting.

Dr. Richard J. Levis said that the subject of skin-grafting has now become very familiar. He had adopted the expedient very many times, and had no doubt that it often is of great service in the healing of large ulcerated surfaces. He called attention to the fact that there were some peculiar conditions of the granulating surface requisite to insure the development of the grafts; in some apparently healthy surfaces the grafts will not grow; in rupial ulcers and other unhealthy sores the grafts will sometimes succeed, and yet will fail in simple ulcerations. For this he was unable to offer any adequate explanation. He referred to a case in which the scalp of a young woman had been torn off by machinery, treated subsequently at the Pennsylvania Hospital, and a perfectly clean granulating surface followed, upon which great numbers of grafts were placed, but none would germinate.

When the grafts succeed, it is remarkable how much they stimulate the surface of an old ulcer. In an ulcer with overlapping edges, such as are often seen in old leg-ulcers at Blockley, it was formerly the custom to cut these edges away, but he had repeatedly seen, after the application of skin-grafts, so much stimulation as to make surface level with surrounding skin and the edges disappear.

It is a curious fact that, no matter what the shape of a

chronic ulcer is originally, it becomes nearly oval before it heals; however irregular it may have been, it rarely heals before assuming this form.

In the cicatrizing of large surfaces, skin-grafts are applied to good purpose. In the case of a man received into the Pennsylvania Hospital, whose back was burned by sleeping near a lime-kiln, and was intoxicated by its fumes, the entire back was made to quickly commence healing by skin-grafting. A large number of grafts were inserted, and were spreading nicely, when the man took a chill and hot fever, and every one disappeared by rapidly-destructive ulceration. The surface was grafted again with complete success.

As to the manner of taking the grafts, his plan was to introduce a fine needle through the outer layer of the skin, and snip off the elevated minute piece with iris scissors, removing only a small point of cuticle and some of the superficial dermoid layer. He had noticed no difference whatever in the rapidity of the growth in the large and small grafts.

In the process of grafting, the small pieces of integument are simply laid, with the cuticle side uppermost, upon the granulations, the surface being rather dry. After leaving the ulcer uncovered for several hours, he covers it with a piece of waxed paper, to protect it from the bandage. The first phenomenon noticed is the disappearance of the graft. The little piece of cuticle becomes detached and is lost in the discharges from the surface of the ulcer, whilst the true dermoid material remains. Following this, in about two days, a little lilac-tinted spot is seen, considerably below the level of the granulations; then this spot increases, and its subsequent growth is very evident. He regarded the plan of leaving the ulcer uncovered for some hours after the operation to be much better than immediately applying any kind of dressing.

In reply to a question, he stated that it did not seem to make any difference whether the grafts were taken from the same individual or another. In truth, he had frequently transplanted grafts taken from the integument of amputated legs and arms with success.

He had never seen any bad results from this practice, but would not recommend its general adoption for fear of specific infection.

Dr. L. Turnbull, in replying to the objections raised, said

that out of twenty-four cases in which he had taken notes, in only two cases had the surface afterwards broken down. As regards the character of the sore to which grafts may be applied, Dr. Levis has used them in rupial ulcers, and Bryant has reported several cases. In the speaker's opinion, nearly all healthy granulating surfaces are suitable. He preferred covering the graft to Dr. Levis' plan, and agreed with Dr. Hayes, who, after applying adhesive plaster and bandage, left it undisturbed for four days, as before this time it is impossible to tell whether the graft will take or not.

As to the source of the graft, it is only necessary that the skin should be healthy. A case is reported in London, where the skin of a white person was grafted upon a colored man, with successful piebald effect.

THE AUDIPHONE.

Dr. C. H. Thomas, by previous announcement, gave a descriptive lecture upon the audiphone, explaining the mechanical principles involved in its operation and method of application, and suggested some important and practical modifications of the construction and new applications of the principle involved. The lecturer presented several patients to illustrate his remarks.

Dr. J. Solis Cohen inquired whether the vibrations of this new route of hearing might not, by constantly jarring the bones of the head, produce some injury to the delicate structures of the brain. The mode of hearing suggested by vibrations of the cranial bones is not the natural method, and may lead to peculiar results, similar to those of railroad injury to the nervous system.

Dr. Charles Turnbull said, in reply, that the man who had used this instrument for the longest time was Mr. Rhodes himself, who employed it constantly for three years. In the speaker's opinion, no evidence of injury to the brain existed in this case; on the contrary, he considered him very shrewd in the management of his business. He also called the attention of the Society to the fact that the line is very clearly drawn between the two classes of cases. When the auditory nerve is intact, deafness must necessarily be due to disease of the middle ear or obstruction of the auditory canal. These cases can hear with the audiphone; but in disease of the auditory nerve this will be of no service.

Dr. S. D. Risley said that in middle-ear deafness patients can hear better through the teeth than in health, or when the canal is unobstructed. He considered this a practical question in the use of the audiphone: If the auditory canal be closed, can the patient hear through the audiphone more distinctly?

Dr. Thomas, in conclusion, promised to further investigate the capabilities of the instrument. He had given considerable thought to the subject, and had concluded that the vibrations produced in hearing in this manner are of the same kind as those produced in our own cranial bones in the act of speaking, though far less intense, and therefore incapable of doing harm.

MICROSCOPY.

THE ACME.—This is the name given a microscope recently constructed by Messrs. Sidle & Poalk, of Philadelphia. It is designed for students and physicians, and is capable of doing any physiological and pathological work. It reclines at any angle; has a thin stage; fine and coarse adjustment; and a number of desirable features which we have not space to mention. The price of the stand with one eye-piece in box is \$40. The objectives, we believe, are extra—the price of a $\frac{3}{4}$ rds., of 36° angle, being \$12, easily resolving No. 5 of Moller's platte in balsam; price of a $\frac{1}{6}$, \$15, resolving the *angulatum* of Moller's balsam platte by central light.

—In preparing diatoms *in situ*., Mr. Paul Petit proceeds as follows: In order to destroy the cellulose, the diatoms are placed in strong nitric acid for twelve hours; they are then washed, dried, and slowly burned on the cover-glass. To mount them, oil of lavender is dropped upon the cover-glass, which is then inverted upon a drop of balsam on the slide, and the slide is warmed in the usual manner. Oil of lavender is the only medium which Mr. Petit has found that will thoroughly displace the air in such valves as those of *Melosira numularia* and certain others. It is a good plan to mount some frustules cleaned in the ordinary way, along with those *in situ*.

—THE expert evidence which has been offered during the course of the trial of Mr. Hayden, at New Haven, for murder, possesses some features of interest to microscopists. After the mass of evidence which has been given by the scientific gentlemen on both sides, it will be strange if any jury of ordinary intelligence can decide what is right or wrong. Really, there is much confusion where there should be none at all. Whether the microscopist is or is not able to positively identify human blood, or any other kind of blood, is not a matter of opinion, but of fact and experience; and there should be no dilly-dally about it. In our next issue we will review the evidence, and show how easily a man can make assertions under oath, which, after more thorough study, he would discover to be unfounded.—*Microscopic Journal*.

FORMULA FOR DETERMINING THE MAGNIFYING POWER OF A MICROSCOPE.—1. Divide ten inches by the nominal focal length of the objective. This will give the magnifying power of the glass.

2. Divide ten inches by the linear distance between the centers of the field-glass and the eye-glass of the eye-piece.

3. Multiply these quotients together and you will get a close approximation to the working power of the combination, when used with the standard length (ten inches) of tube.

To put the above in mathematical form: Let $F O$ equal the nominal power of the object-glass; let $F I$ equal the distance between the lenses of the eye-piece; then 100 divided by $F O$ multiplied by $F I$, equals the magnifying power of the instrument. For an instrument with a longer tube, substitute the length of the tube for the first ten inches in the formula.

After the announcement that Dr. Main, of Jackson, Michigan, would, at the next meeting of the Club, read a paper on his specialty, "Section Cutting," the formal session ended.

Illinois State Microscopical Society.

THE Illinois State Microscopical Society recently held its semi-annual meeting, at which Mr. Colgrove delivered an address on "Recent Microscopical Work." He stated that while no discoveries of special interest had been made in microscopy, during the past six months, the microscope had contributed materially to the sum of human knowledge during this period. He reviewed the subject briefly, stating that the discussion of the question of aperture had ceased; the advocates of low angles, with the exception of Mr. Wenham, have apparently abandoned the field, while makers are now producing objectives of high angular aperture; and we find that those best qualified to judge generally recommend the immersion objective, used with a fluid whose refractive index is the same, or nearly the same, as that of crown glass.

Continuing his remarks, the speaker said that Prof. W. Fleming has recently published a detailed account of his extensive researches on the structure of nuclei, and their behavior during the process of cell division, according to which the nucleus consists of:

1. An investing membrane.
2. An intra-nuclear net-work, consisting of an extensive system of ramified filaments, exhibiting at intervals thickenings or pseudo-nucleoli.
3. The true nucleoli.
4. A pale ground-substance, filling up the remaining space, and devoid of visible structure in the living state, but assuming a granular, fibrillar appearance by the action of reagents.

The subject was afterward taken up by the medical gentlemen present, and discussed at considerable length. Dr. Curtis stated that since the appearance of Klein's Atlas he had devoted some time to the investigation of these statements; that, with high powers and the object just out of focus, he had seen an appearance something like that illustrated by Klein, and described by Fleming as an "intra-nuclear net-work." When the corpuscle is in true focus its surface presents a granular appearance, of a somewhat regular pattern, like the surface of a raspberry.

The meeting closed with an exhibition of interesting objects.

Microscopic Exchange Bureau.

WE have received the following card:

"In our country there are no less than one thousand microscopists, who are engaged in preparing and mounting slides of all kinds, and who would willingly exchange with their fellow-workers were it possible to do so without much trouble and expense. By so doing preparers of limited means would be able to possess many slides not now accessible, and those engaged in specialties could possess a general collection without the accompanying expense now attending the purchase of what they wish.

"To facilitate such exchange this Bureau is established, and it must commend itself to all workers or amateurs.

"The following rules have been established to aid in conducting it:

"1. All joining shall send a box of not less than six (6) slides.

"2. To accompany the slides with a list of what they have for exchange.

"3. To send another list of what they wish to receive in exchange.

"4. Each one to pay his own postage to and from the Bureau.

"5. One slide of every six to belong to the office.

"6. *None but first-class slides to be sent.*

"7. Extra good or valuable slides will be rated as such.

"At times lists of slides on hand will be issued and sent to those interested.

"Arrangements are under way with some of the European microscopists for interchange between the two continents.

"The encouragement received has been such as to lead to the hope that ere long any slide can be furnished immediately. For further particulars address,

"HERMAN POOLE, MICROSCOPIC EXCHANGE BUREAU,

"No 23 West Swan Street, Buffalo, N. Y."

SEVERAL Microscopes of excellent quality can be had by writing to the office of the MEDICAL NEWS. A good *Beck's Economic* for sale for \$30. A stand with several lenses of Schieck, of Berlin, worth in Berlin \$300, for \$200.

GLEANINGS.

SYMPTOMS AND TREATMENT OF CYSTITIS OF THE NECK OF THE BLADDER.—Laforest, having carefully studied the different forms of cystitis of the neck of the bladder and their symptoms, sums up his results as follows (*These de Paris*, 1872; and *Bull. General de Therap.*, March 15, 1879): There are three different forms of cystitis of the vesical sphincters, according to the symptoms. They arise from different causes, and must be treated in different ways. The first form, which is most frequently met with, is comparatively the least troublesome one. It generally lasts from forty to sixty days, and is generally called "subacute cystitis of the neck." The treatment consists in most cases of simple therapeutical means, though the use of soft bougies will prove very efficient towards hastening the recovery of the patient. A second form of the affection is apt to cause much pain and trouble, owing to frequent attacks of spasms and contractions, which give rise to alternate fits of retention and incontinence of urine; while at the same time, the desire to micturate becomes so frequent as to cause the patient serious inconvenience, and disturb his rest. This affection lasts generally from six weeks to several months; the author has given it the name of "chronic cystitis, complicated with spasms and contractions." Owing to the fact that it is always brought on by inflammation, this form of cystitis may easily be cured during its earlier stages, but a purely medical treatment will hardly prove efficient enough alone, unless combined with surgical treatment. According to the severity of the case, either progressive dilatation or divulsion, or a local application of nitrate of silver, or even internal urethrotomy, may be successful. The third class has been simply named "rheumatic or nervous cystitis," as its etiology is very clear; urethritis nor blenorrrhagia are present, only a purely rheumatic diathesis. Its duration is from three to six months, but cases have come under observation where it lasted for years; and, finally, ended fatally. The treatment must be a very energetic one; it generally consists in divulsion, internal urethrotomy, and even median lithotomy.—*London Med. Record*, May 15, 1879.—*Am. Jour. Med. Sciences*.

NEUROTOMY: A SUBSTITUTE FOR ENUCLEATION.—The lamentable effects which a sightless eye frequently produces upon its sound fellow has established as a law of ophthalmic surgery than an eye lost from accident, and which continues to be painful, is a dangerous organ. There are many cases, however, in which, in spite of the uselessness of the organ, and the recognized danger of sympathetic affection of its companion, strenuous objection is made to enucleation. In order to gratify the desire of these patients, and at the same time to preserve them from anticipated evils, Dr. Chisholm proposes division of the nerves entering the eyeball. As is well known, most of these nerves pierce the sclerotic in the immediate neighborhood of the optic nerve entrance, in conjunction with many of the vessels supplying the eye. The operation is performed by making a vertical incision over the tendon of the internal rectus muscle; this tendon is then divided, and the eye rotated forcibly outward by traction on the insertion of the tendon; a pair of strongly curved scissors is next introduced, and all the tissues in the neighborhood of the optic nerve divided. Deep sutures are placed in the severed muscle, the eye closed, and simple water-dressings applied. The hemorrhage is sometimes considerable, requiring a compress and bandage to control it, but it does not usually last long. Owing to the escape of blood into the posterior portion of the orbit, there is generally a good deal of exophthalmia, which, however, soon disappears. In the seven operations performed, recovery has been rapid and the success perfect. Dr. Chisholm thinks he can confidently recommend this operation to the attention of the profession, as possessing, in many cases, all the advantages of enucleation without the disadvantage of the subsequent use of an artificial eye.—*Medical Record*.

HEMORRHAGE—RULES OF TREATMENT.—Dr. A. L. Ranny (*Med. Record*, June 28) gives the following as rules for meeting all possible indications in the treatment of hemorrhage: (1) Always ligate the bleeding vessel in moderate hemorrhage when convenient to do so. (2) Use compression over the wound on the main trunk in moderate hemorrhage when ligature of the wounded artery is inconvenient. (3) In violent hemorrhage enlarge the wound and tie the artery. (4) As a rule, never attempt ligation

except when bleeding actually exists. The exceptions to this rule are (*a*) in exposed vessels of large caliber demanding ligature as a safety measure; (*b*) in delirium tremens following an injury; (*c*) when necessity for transportation exists. (5) Ligation should, as a rule, be applied at the bleeding point, and not remote from it. (6) Use the external wound as a guide to your incision to reach the vessel, except when the wound exists on the side opposite to the vessel injured, when a probe may be cut down upon. (7) Always use the greatest precaution to avoid needless loss of blood in reaching the vessel until the fingers can compress it. (8) The artery, when found, should be tied above and below the wounded portion, and, at a bifurcation, three ligatures should be used. In case the lower end can not be discovered, use compression in the wound as a substitute for ligature. (9) A ligature should not be placed close below a large branch. (10) In recurring hemorrhages the treatment should depend on the color of the blood and on the severity of the hemorrhages. If the hemorrhage springs from the proximal end of the artery, (*a*) tie if possible; (*b*) amputate if necessary; (*c*) use styptics and compression if both are impossible. (11) Amputation is preferable to ligature, (*a*) when great swelling of the limb renders ligation difficult; (*b*) when exhaustion of the patient forbids further search for the vessel; (*c*) when competent assistance is needed and not attainable. (12) In case a large vessel is injured without actual hemorrhage, hot flannels to the limb are indicated as a preventive measure. (13) In case an aneurism is the seat of the hemorrhage—provided the aneurism is traumatic in its origin—it should be treated on the same principles as if it were a wounded artery.—*Detroit Lancet*.

THE TOXIC EFFECTS OF TEA.—Dr. W. J. Morton, of New York, recently read a very suggestive paper on the above subject, before the American Neurological Association, at its regular meeting.

The conclusions which he reaches are not altogether new, but as the result of experiments made upon himself, are entitled to more than usual consideration.

In a resume, he finds that the "immediate effects of moderate doses of tea in the case of a healthy person are an elevation of pulse, increase of respiration, agreeable

exhilaration of mind and body, a feeling of contentment and placidity, an increase of intellectual and physical vigor, with no noticeable reaction. An excessive dose was followed immediately by a rapid elevation of pulse, a marked increase of respiration (one-third more), an increase of temperature, and no period of exhilaration, but immediate and severe headache, dimness of vision, ringing in the ears, dullness and confusion of ideas. Following this is a severe reaction, exhaustion of mind and body, tremulousness and nervousness, and dread of impending harm, that can not be relieved by taking more tea.

The effects of continuous doses were an increase of all these symptoms, with extreme susceptibility to outside impressions, constipation, diminution in the amount of urea, and an increase in the sulphates, phosphates and chlorides.

The doctor concludes his paper with the following summary:

1. That, as in any other drug, there is a proper and improper use of it.

2. That in moderation it was a mild and pleasant stimulant, followed by no harmful reaction.

3. Its continued and moderate use led to a very serious group of symptoms, such as headache, vertigo, ringing in the ears, tremulousness, nervousness, general exhaustion of mind and body, with disinclination to mental and physical exertion, increased and irregular action of the heart, and dyspepsia.

4. The mental symptoms were not to be attributed to dyspepsia.

5. It diminished the amount of urine, and retarded the metamorphosis of tissue.

6. Many of the symptoms of immoderate tea-drinking were such as might occur without suspicion of the real cause.

In the general discussions which followed the reading of this paper, Dr. Hammond mentioned neuralgia as one of the disorders following tea-drinking. Dr. Morton asserted that among tea-tasters the craving for alcohol, so common among them, was not uniformly felt, and that the danger from drinking was appreciated with these men.

This statement is at variance with other authorities, who assert that tea-tasters, as a rule, have a morbid

craving for alcohol, or its compounds, accompanied with the delusion that it is a passing impulse, always within their control.

Excessive tea-drinkers always use some form of alcohol after a time, and a class of very complicated nervous symptoms follows, which can not be clearly classified. The use of tea and coffee to excess are always associated with inebriety at some stage of the disease. The relation of the disorders of tea-drinking and inebriety would form a very interesting study for the future.—*Quarterly Journal of Inebriety*.

CHANGES IN THE CUTANEOUS NERVES IN A CASE OF VITILIGO.—The pathological anatomy of vitiligo, especially the changes occurring in the cutaneous nerves, has hitherto received but little attention; a fact which will increase the interest in the following observation reported by MM. Leloir and Charrier. The patient was a man, twenty-three years of age, who had been attacked three years before with vitiligo, and who, during infancy, had suffered from various skin affections, such as impetigo, pemphigus, psoriasis, etc. Eight years previously he had contracted syphilis; five years afterward ulcerations appeared on the penis, and their vicinity was shortly marked by large characteristic spots of vitiligo. These spots, surrounded by deeply pigmented circles, increased in size, and new ones appeared in consequence of the irritation of the skin by the application of medicinal substances. This led M. Fournier to believe that the affection was of nervous origin. A small piece of skin was removed from a three-year-old patch, situated on the lower portion of the abdomen, and submitted to MM. Leloir and Charrier for examination. They found that a large number of the nerve-fibers were greatly changed, presenting distinctly the lesions of nervous atrophy. These changes pointed to the fact that there had been a slow degenerative process. Besides the nervous lesions, it was also shown that the epidermis was greatly thinned; the papillæ had entirely disappeared, and the corneous layer alone remained. Is this an exceptional case, or are these lesions always present in vitiligo? If they are present in all cases, this disease resembles other trophic troubles of the skin—for example, anæsthetic leprosy and certain forms of pemphigus.—*Le Courrier Medical*, December 27, 1879.

INFLAMMATION OF THE INTERNAL COAT OF THE VESSELS IN TUBERCULAR MENINGITIS.—In 1867 M. Cornil demonstrated the blocking, with fibrin and white blood-globules, of the vessels of the pia mater running through tubercles. Further observation has convinced him that the lesions of the vessels in tuberculosis do not consist entirely of inflammation of their sheaths and external coats, but that there is also a special inflammation of the tunica interna, and to this tubercular endarteritis and endophlebitis he has called the attention of the *Academie des Sciences*. This more or less thickened membrane, situated in the middle of the tubercle, is formed of round, elongated, or angular cells, all provided with small rounded nuclei. Approaching the lumen of the vessel, some very large cells are found, giant-cells in fact, which in this disease are only found in the internal vascular coat. As a practical conclusion, M. Cornil advances the opinion that these alterations tend to prove the infectious nature of tuberculosis, the contagion being evidently carried to the tunica interna by the poisoned blood.—*Le Courrier Medical*, January 3, 1880.

TRANSVERSE INCISION IN THE VELUM PALATI FOR THE REMOVAL OF NASO PHARYNGEAL POLYPI.—M. Boekel, of Strasbourg, has employed this method four times as a preliminary operation in the removal of naso-pharyngeal polypi. This incision, from two to three centimeters long, permits the operator to see a part of the pharynx and base of the skull. During the removal of the polypi, the blood, instead of flowing in the throat, rather makes its exit through the nose. The tumor being removed, the wound in the palate is brought together by means of a suture, the union being generally by first intention. The author has seen these wounds heal rapidly without sutures. The incision is made with a bistoury or thermo-cautery.—*Lyon Medical*.

JOHNSON'S FLUID BEEF.—This preparation of animal as food, now so well known both in Europe and America, contains the nutritive properties of beef in a concentrated form, the albuminous and extractive matter being combined. It has received the approbation of the most eminent physicians and chemists everywhere.—*Canadian Jour. Med. Science*.

Commencement Exercises of the Cincinnati Medical Colleges.

SINCE our last issue the Medical Colleges of this city have been holding their Commencement Exercises. The first was that of the *Miami Medical College*, held at Robinson's Opera-house, Monday evening, March 1st. This was attended by an assembly of ladies and gentlemen filling every available space of the house. The number of graduates was forty-five.

Prof. Murphy, the Dean, in some extended remarks, spoke as follows of the great number of physicians that are graduated yearly in the colleges of this county:

Three thousand doctors will in all probability be graduated this month. All of these men have learned how to prevent disease—yea, more, they have learned that the cure of disease does not consist in taking many drugs or in consulting many doctors. They have learned that nature, or the *vis medicatrix naturæ*, under favorable conditions, will cure all diseases not in themselves fatal. Finally, they have learned that every disease has a course, a duration, or a life, which can not be abridged or arrested. They have learned above all that the doctor's business is to conduct the disease to its most favorable termination quickly, safely and pleasantly to the patient.

Who will say that this knowledge does not constitute a valuable education?

Who will say that these young candidates will not be wiser men, healthier men, more useful men, in their day and generation, whether they are popular or successful physicians or not?

Let me assure this intelligent audience that the medical colleges of our country are doing their part in educating the doctor who can grapple with the diseases of our civilization, as well as to act the part of a good citizen.

Among the number in this good work, I can safely say that the Miami Medical College holds no secondary place.

The valedictory was delivered by Professor W. H. Mussey.

He sketched the history of the college, which inaugurated its first course of lectures in November, 1852, as a Faculty composed of Drs. Reuben D. Mussey, Jesse P. Judkins, John Davis, Charles L. Avery, John L. White,

George Mendenhall, John A. Murphy, C. G. Comegys, John Locke, Jr. Of these only one remains connected with the institution—Dr. Murphy. He paid a tribute to the memory of the deceased members, Drs. Mussey, Judkins, Avery, Mendenhall and Locke, and expressed the hope that a fitting memorial will be given them by the Dean of the Faculty, whose professional associations have been so intimate with them, and whose clear perceptions of character, literary taste and attainments eminently fit him for such a work. It was not his intention to enter into details as to the career of the college in the work it is doing and has done as an educational institution in the most difficult and most responsible of the professions, but would simply point to the Alumni as a universal and perpetual honor to their *Alma Mater* and to the profession they had received at its hands. Their record is here in Cincinnati, it is abroad in Ohio and other noble States of the Union, and it is in the armies and navies of the nation. It was written in the dread pestilence, in the scourge of the epidemics, and not a few have laid down their lives who here entered heroically into the unequal contest, when they knew that death was almost certain to be their portion.

Every true son of *Æsculapius* has for his motto, "For Humanity's sake and God's glory," when he buckles on his armor, and swears that he will hold no exposure too great, or sacrifice too dear, for the exercise of his high calling, and that he will not lay down his armor so long as his brain is active, or his bodily vigor is equal to its duties.

Dr. Mussey applied the lash severely to those physicians who degrade their profession by substituting "filthy lucre" for "humanity," in their motto, and turned their profession into a trade. His address discussed the duties of the true physician, the man who subordinates everything to his profession except honor and manly character, and in this he drew a striking contrast between the charlatan in his stunning equipage, and the earnest practitioner who seeks the good of his patients and not self-laudation and display.

After Rev. Dr. Pratt pronounced the benediction on the exercises at Robinson's Opera-house, the Faculty extended an invitation to the graduates, the undergraduates and the members of the Alumni Association to unite with

them in a few choice gustatory exercises of an entirely informal character at Keppler's, on West Fourth Street.

THE Commencement Exercises of the Medical College of Ohio were held Tuesday evening, March 2d, at the Music Hall. The attendance was large. The secretary announced the number of matriculants of the session as 326. The number of graduates was 121. An interesting feature was the awarding of prizes, of which there was quite a number. One gentleman, G. L. Mathes, of St. Paul, Minn., was the recipient of three prizes—one a microscope for the best written examination in physiology, a gold medal for best paper on final examination in Prof. Rausohoff's department, and a Faculty prize of gold medal for greatest excellence in all the departments. The most, if not all of the Chairs, awarded prizes.

Prof. Thad. A. Reamy, of the Chair of Obstetrics, delivered a memorial address on Prof. M. B. Wright, who, for twenty years, had been connected with the College. Among other testimonials of the virtues of the deceased he stated the following:

Dr. Wright had but one work, one purpose. To this he brought gifts rich and rare, and freely consecrated them upon its altar. He goes down to posterity remembered not as a great and prolific author, for probably in but a single contribution to medical literature has he guaranteed quotation by writers on obstetrics for all time. But he shall not be forgotten. He was a proof that unsullied honor and unselfishness remain yet among men. In his countenance was seen beaming pure benevolence. True, there was clearly defined firmness of purpose, absolute will—self-assertion—but over it all played the divine sunlight of kindness and love.

Prof. Jas. T. Whittaker made a brief memorial address on Prof. Jas. Graham, the former Professor of Principles and Practice in the College. We make the following extract:

Something over three years ago the Secretary of the American Medical Association undertook the publication of a biography of the prominent medical men of the United States. He collected the material for his work by addressing notes to the individuals whose lives he thought worthy of record. One such note he sent to Dr. James Graham. The Secretary never received from Dr. Graham any response. The disease which finally took his life had already then made inroad upon his energy and ambition, and the last chance of an authentic account of his life was lost.

So nothing was known of his early life. The daily papers in their accounts at his death had no data other than the place of his birth. The year of it was recorded by guess and was recorded wrong. What there was in him of promise of the position he should take, what of the dawn of preface to the meridian splendor of his fame, is all dark. But one little note was

found among his papers that could shed any light upon his early days. It is an attempted response to the letter of Secretary Atkinson. The author of it evidently considered it unsatisfactory and never sent it on. But to those of us who knew him it is a characteristic note:

CINCINNATI, Jan. 23, 1877.

W. B. ATKINSON, M.D.:

Dear Sir:—I have been and still am so very ill that it would overtax me to write out any great length a history of my life. The best I can do is to furnish you an autobiographical sketch.

I was born in New Lisbon, Columbiana Co., O., on the 28th of May, 1819. My parents were poor, but very respectable. My father, George Graham, was born in County Down, Ireland. His mother's maiden name was Nelson, and she is said to have been remotely related to my Lord Nelson.

My mother was Eliza Branch, born, I think, in the city of New York, of parents whom I well remember as being well educated, proud, and aristocratic in bearing.

In my early boyhood I do not remember that I was rated for anything more than a very bright and wiry child, with great quickness and smartness of mind. I could learn my lessons at school with little labor, but my nervous temperament was such that I could not stand the restraint and confinement of the school-room, and hence I sought every opportunity to play truant. I think it doubtful if I ever went to school for six consecutive days in my life. I got most of my education, which, in that day, consisted principally in reading, writing and ciphering, at the old log school-house on Sharp's Hill in New Lisbon.

My father kept in early days what was called a grocery store. He sold bread, cakes and beer, and had on one side of the shop a small stock of dry goods, iron, nails, etc.

My father dying, the family was left to provide for itself. I went with an engineer, Cooper, to make surveys and "lay out work" for the contractors on the Sandy and Beevus Canal. I was then but a mere boy, got a dollar a day, and yet managed to lay up some \$300 in money. Our expenses were but light, for when we had eaten, irregularly, twenty-one meals at a house, we paid for them \$1.50.

With the money thus earned and saved, I commenced the study of medicine with Dr. McCosh. After a year, I commenced practice with Dr. Geo. Fries, then at Hanover, but subsequently a prominent physician and surgeon of this city. He was a rabid Democrat, and had been elected by that party a member of Congress, and to the office of Treasurer of Hamilton County. When the war broke out he was a bitter Copperhead, and I a Republican. We quarreled at this. I left his office and residence, and never spoke to him afterward. I at once sought an office at 119 West Seventh Street. The rent was very cheap, but I was so very poor that I bought crackers and cheese for the sake of economy, and ate them in my back room. Very soon I got a large practice and had an income beyond my wants.

This was the simple story of his life. He speaks with pride of the accidents of his birth. His father's mother is said to have been related to my Lord Nelson, and his mother's parents he well remembers as being well educated, proud, and aristocratic in bearing. Perhaps he got from them his own stateliness of bearing, that dignity of mien from which he never stooped; perhaps that keen, classic and skeptic face that made him look like the pictures of Voltaire. Perhaps the remembrance was rather tinged with bitterness than pride, for in the whole life of Dr. Graham he was never influenced in the least by the glitter of wealth or the glamour of social caste. No other consideration than inherent merit ever made him support a measure or a man.

One day, in his early youth, he stood up in the Medical Society and made a report of a case. His report was sharply criticised, and he defended himself with an ability in singular contrast with his age and experience. A few days afterward a far-sighted old physician, who was conducting a medical college, came to him and requested him to fill a chair in it. The students in the other schools thought it a joke, and they made up a crowd to go and give him a reception. They went down armed with paper-wads and such other missiles of juvenile aggression. They came pouring in at the door. Dr. Graham was just at his desk, and was stopped by the noise. For a moment he was thoroughly confused, then straightening himself, he begged for a few moments' attention. Forthwith he commenced his subject, and, as stimulated by the opposition, he continued his lecture, he poured out such a stream of simple eloquence as won every heart. Cheer after cheer went up as he closed. The whole class was won. In a few years more he was at the post he held for twenty years in the Medical College of Ohio.

Prof. Jos. Ransohoff delivered the valedictory address, taking for his subject the "Status of Medicine." He closed with the following remarks:

Gentlemen, you enter the profession at a time when "Progress" is stamped on all the banners of its many departments, a time in which liberal ideas are freely promulgated and tolerance abounds. The barriers which separate different schools are being leveled and the merits of each attested by all. Receive the rich legacy of wisdom and experience gathered in the past, and see that it is utilized according to the spirit of the time in which you live and work. By reason of circumstances, that which you will add to the general fund of knowledge will be of a practical kind. With the fervor of youth, you may hope to wrest some great and hidden truths from fields hitherto unexplored, but your hopes will not be realized. While blessed with the free institutions of a democracy, you are deprived of facilities for original investigation. While millions are annually expended in promiscuous charity, not a mite goes toward the erection of laboratories and museums, or the endowment of special chairs. Among the nations of Europe of smaller population and less natural resources than ours, universities, the fountains of knowledge, are maintained by the State. From their laboratories emanate the results of experimental research and practical truths. Grasp them, that you may shine with the knowledge thus absorbed, but the luster will be that of light reflected, not generated. Among you there may develop a Gross, Brainard or McDowell, but our land has not yet given birth to the man with opportunities to become a Virchow, Bernard or Helmholtz.

Laden with the honors of the Medical College of Ohio, go forth to do your manifold duties toward your patients, the public and your professional brethren. Learn to labor and to wait. Lasting and extensive popularity, the least questionable evidence of superiority and excellence, is achieved only after years of patient and unremunerative toil. Live to be lessons of benevolence and excellent examples; learn to cherish a love for virtuous deeds, and let respect for human nature as it is, and admiration for moral beauty, be the threads to guide you through life. "In a gingham-mill a broken thread or a shred spoils the web through a piece of a hundred yards." One unworthy deed casts a film over the work of a life.

BOOK NOTICES.

THE THERAPEUTICS OF GYNECOLOGY AND OBSTETRICS; Comprising the Medical, Dietetic and Hygienic Treatment of Diseases of Women, as set forth by Distinguished Contemporaneous Specialists. Edited by William B. Atkinson, A.M., M.D., Lecturer on Diseases of Children at the Jefferson Medical College; Author of "Hints in the Obstetric Procedure," etc. 8vo. Pp. 365. Philadelphia: D. G. Brinton. Price in cloth, \$3.00; in leather, \$3.50.

This work by the permanent secretary of the American Medical Association will undoubtedly obtain very consid-

erable popularity in the profession. It is the third in the Series of "Modern Therapeutics," originally projected by the late Dr. George H. Napheys. The aim of the Series is to present the most modern and approved plans of treating the diseases considered, as set forth by the most eminent authorities and specialists in this country and Europe. The most recent publication of the European press, and all the special journals' of both continents, have been laid under contribution.

In previous issues of the MEDICAL NEWS we have given pretty full descriptions of Dr. Napheys' "*Modern Therapeutics*," medical and surgical. While this work is on the same plan, yet we consider it superior to either one of the other volumes. One reason for it is probably because, the number of diseases comprehended being smaller, more space can be devoted to the consideration of the therapeutics of each one; consequently the treatment of the various affections by different authorities are stated in much fuller detail.

Every physician, of course, should be able to make his own prescriptions, but while we recognize this fact, it should be remembered there are special therapeutics as well as general therapeutics. The optician has a class of remedies which experience has proven is specially adapted to the treatment of diseases of the eye; and these have to be studied with reference to their therapeutical effects in affections of that organ. General therapeutics teach us as to the general properties of astringents and what they are, but we must learn by special study what class may be properly employed in morbid conditions of the organs of sight. What is true as regards ophthalmology is true also as regards gynecology and obstetrics—these, too, have their special therapeutics.

The work is divided into two parts—the first embracing the principal diagnostic features and a sketch of the treatment of various leading practitioners, with their prescriptions, of diseases of women, under the head of "Gynecological Obstetrics;" the second part being devoted to obstetric complications, under the head of "Obstetrical Therapeutics."

Turning to "Cervicitis (Ulceration and Granulation of Os, etc.)," we have a detailed account of the treatment, constitutional and local, with prescriptions of Dr. Robert Ellis, of London; Dr. A. Lebland, of Paris; Dr. T. Gaillard

Thomas, of New York; Dr. Lombe Atthill, of Dublin; Dr. Robert Bell, of Glasgow, and several others. Our readers will thus perceive that the work is one of value, not only to young physicians, but even to medical men, containing as it does a synopsis of the experience of so many eminent men.

CLINICAL LECTURES ON THE DISEASES OF WOMEN; Delivered in St. Bartholomew's Hospital. By J. Matthews Duncan, M. D., LL. D., F. R. S. E., etc. 8vo. Pp. 172. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co. Price, \$2.

These lectures were originally published in the *Medical Times* and in the *Medical Examiner* at the request of the editors. They are now produced in a separate form at the instance of the publishers.

This is a very valuable collection of clinical lectures on diseases of women, and we have no doubt it will be held in high esteem by all who take an interest in these affections. Such complaints are considered as are most commonly met with, but with the treatment of which very many practitioners are sadly ignorant. A perusal of the work by such will enable them to prescribe much more intelligently for a class of ailments than they have been in the habit of doing, and oftentimes save them the mortification of having patients consult some irregular doctor to latter's advantage.

EDITORIAL.

HYGIENE.—Hygiene is now more studied than ever before, and its laws, as they become recognized, better carried out in the government of our large cities, and better observed, too, in families and with individuals. The consequence must be an observable increase in the average length of life. Probably there is no city in the United States in which the results of an intelligent and strict system of hygiene carried out can be so well observed as in the city of New Orleans. It is a city in which malarial diseases have prevailed to a very great extent. It has had many epidemics of yellow fever and other virulent affections. But when special efforts have been

employed to place it in a healthy condition, as when occupied by General Butler in the late civil war, by a thorough cleaning of the streets and alleys and establishing sewerage, it has had complete immunity of all epidemic diseases—there not being, we believe, even a single case of yellow fever during the summer, which previously, at that season, had almost invariably prevailed to a greater or less extent.

We have recently received a small pamphlet from Joseph Holt, M. D., of New Orleans, entitled "Excerpta from the Annual Report of the Board of Health for 1879," in which is described the sanitary condition of the first district of New Orleans. The statements made by Dr. Holt, which, of course, embody his experience as a sanitary officer, show conclusively to how great extent diseases may be prevented—that those of a malarial character especially may be entirely warded off—stamped out, as it is termed. And malarial affections carry away every year their tens of thousands of lives. He finds from observation in each subdivision of his district that the death-rate bears an invariable ratio to the general sanitary state. On the fourth page of his pamphlet he says:

"The special disorders which have prevailed to an extent sufficient to influence materially the death-rate have been precisely those invariably associated with crowded population, living in badly-ventilated houses, built on wet and undrained soil, and in no manner provided with sewerage. Of phthisis, pulmonalis, there have been 182 deaths; of pneumonia, 81; of bowel affections, recorded as enteritis, dysentery, diarrhea, typhoid fever, cholera-morbus, cholera-infantum and marasmus, there have occurred 168 deaths. Thus, out of a total of 1181 deaths from all causes whatsoever, considerably more than one-third have resulted from those diseases, notoriously the offspring of bad hygienic conditions, and therefore preventable.

* * * * *

"The above mentioned diseases of the lungs and bowels predominate greatly over all other causes of mortality in the ill-drained and over-crowded centers of the poor.

"If an intelligent mind could for a moment doubt the causative relation existing between insufficient ventilation, bad drainage, the presence of accumulated filth and disease, the mortuary map of the Third District fur-

nishes a demonstration so palpable, so uniform and unvarying, that seeing it once there could never again be entertained a vestige of uncertainty.

"There exist in the social economy of man no circumstances or conditions which bear the relation of cause and effect with greater certainty than bad hygienic surroundings do to misery, degradation, crime and disease.

"Great pestilences do not fall upon us from the heavens, nor are they visitations upon an innocent people, but are engendered and emanate from the disobedience of natural law in causes under our feet.

"While geographical position and climatic conditions are the varying factors in the production of the devastating scourges which sweep the human race, cholera, the plague, typhus and yellow fever, filth is the one factor constant, ever present, the fixed and absolute essential."

TREATMENT OF STAMMERING.—Dr. W. B. Hammond, in the *British Medical Journal*, gives the following practical hints on this subject:

If the attention of the stammerer can be diverted from himself and his articulation, he will often speak to others as calmly and as perfectly as he does to himself when alone. Now, there are various ways of accomplishing this object, but the one that I found most effectual was the performance of some slight muscular action synchronously with the articulation of the difficult syllables. The words that troubled me most were those that began with the explosive consonants—those that require the sudden opening of the lips for their enunciation—*b*, *p* and *t*. I could no more have repeated the alliterative lines, "Peter Piper picked a peck of pickled peppers," etc., to other persons without stammering than I could have walked to the moon, though perfectly able to say the whole piece through without a flaw when speaking alone. With each troublesome word, especially with one beginning a sentence, I made some slight motion with the hand or foot, or even with a single finger, and I found that this plan enabled me to get the word out without stammering. With the enunciation of "Peter," for instance, I would tap the side of my body with the hand just as I opened my lips, and the word was articulated without the least halting. In the procedure, the attention is diverted from the effort to speak to the performance of the muscu-

lar action mentioned, and hence the speech becomes more automatic than it is with stammering. It consists in efforts to render the speech automatic. No orator thinks of his articulation when he is making a speech; no one in ordinary conversation thinks whether or not he will be able to pronounce a certain word, or to acquit himself well in the management of his tongue and lips. His mind is concerned with his thoughts, with what he is going to say, not with the manner in which he will articulate, and the more thoroughly we can succeed in bringing stammerers into the same way of procedure the more successful shall we be in our efforts to cure them.

WHAT IS A COLD?—Apropos of the subject of taking cold, which is considered in a recent number of the *Journal*, the London *Lancet* remarks:

It is startling to discover how little we know about the commoner forms of disease. For example, a "cold." What is it? How is it produced, and in what does it consist? It is easy to say a cold is a chill. A chill of what part of the organism? We know by daily experience that the body as a whole, or any of its parts, may be reduced to considerably lower temperature than will suffice to give to man a cold, if the so-called chill be inflicted upon the surface suddenly. Is it then the suddenness of a reduction of temperature that causes the cold? It would be strange if it were so, because few of the most susceptible of mortals would take cold from simply handling a piece of cold metal or accidental contact with ice. The truth would seem to be that what we call cold-taking is the result of a sufficient impression of cold to reduce the vital energy of nerve centers presiding over the functions in special organs. If this be the fact, it is easy to see why nature has provided the stimulus of a strong fit of sneezing to rouse the dormant centers and enable them at once to resume work and avoid evil consequences. This explains why the worst effects of cold do not, as a rule, follow upon a "chill" which excites much sneezing. Shivering is a less effective convulsion to restore the paralyzed nervous energy, but in a lower degree it may answer the same purpose. The shivering that results from the effect of a poison on the nervous centers is a totally different matter. We speak only of the quick muscular agitation and teeth chattering which

occur whenever the body is exposed to cold, and evil results do not ensue. It follows from what we have said that the natural indication to ward off the effects of a chill is to restore the vital energy of the nerve centers, and there is no more potent influence by which to attain this object than a strong and sustained effort of the will. The man who resolves not to take a cold seldom does.

ARTIFICIAL DIAMONDS.—A great deal has been said in the newspapers of late in regard to the production of artificial diamonds. Our readers, no doubt, have seen announcements of very great positiveness that the secret has finally been discovered by which diamonds can be made, and that they would soon become as plenty and cheap as blackberries. Of course, under such circumstances, the vast wealth of many individuals would be dissipated. But the time is a good ways off before we will have artificially-made diamonds.

We copy the following on the making of diamonds from the *Popular Science Monthly* of March:

"The 'todo' about the artificial production of the diamond has been set to rest by Professor Maskelyne, who, in reply to numerous letters of inquiry on the subject, sends to *Nature* the results of his examination of the Macteor specimens which came into his hands for the purpose. He tested these so-called diamonds—1. With reference to their hardness. 2. Their refracting power, and 3. Their combustibility. The samples sent to him were 'too light to possess appreciable weight—to small even to see, unless by very good eyesight or with a lens.' Yet were sufficiently large to serve his purpose. 'A few grains of the dust—for such the substance must be termed—were placed between a plate of topaz—a cleavage face with its fine, natural polish—and a polished surface of sapphire, and the two surfaces were carefully 'worked' over each other with a view to the production of lines of abrasion from the particles between them. There was no abrasion. Ultimately the particles became bruised into a powder, but without scratching even the topaz. They were not diamond. Secondly, some particles more crystalline in appearance than the rest were mounted on a glass microscope slide and examined in the microscope with polarized light.' They each and all presented powerfully the property of doubly refracting

light. Finally, two of these microscopic particles were exposed to the intense heat of a table blow-pipe on a bit of platinum-foil. They did not burn. They were afterward placed in contact with two little particles of diamond-dust, exceeding them in size, and the experiment, on being repeated, 'showed that the diamond particles glowed and disappeared, while the little particles from Glasgow were as obstinate and as unacted on as before.' When subjected to a stream of oxygen gas the result was the same. Hence, Professor Maskelyne concludes that the substance supposed to be artificially formed diamond *is not diamond and is not carbon*.

"Further experiments led him to the conclusion that it consisted of some crystallized silicate, or possibly of more than one such."

The fate of the Glasgow diamonds has induced Prof. W. Nattieu Williams to send to *Nature* an account of his experience in diamond-making for the benefit of those who may have an attack of the diamond mania. He states that for the popular class-room experiment of burning phosphorus in oxygen he used a cup of chalk, deeper and with a smaller rim than the brass cups usually made for this purpose—the object of this being to check too rapid outburst of combustion. He observed that a cup, several times used for this purpose, became coated on the inside with a hard, glassy enamel, which he supposed to be phosphate of lime. To test this, the cup was thrown into hydrochloric acid and dissolved, but at the bottom there remained a residue of insoluble crystalline particles. "Could it be possible that the carbonic acid, driven off by heating the chalk, had, in reaching the heated phosphorus, become dissociated, its oxygen combining with the phosphorus, and its carbon thrown down as veritable diamond?"

These crystalline particles when tested were found to scratch a glass pestle and mortar in which they were rubbed, but were too small for further examination. To obtain a better supply, phosphorus was dissolved in bisulphide of carbon, and this solution mixed with powdered chalk constituted a paste, which was put into a porcelain crucible, and the mass fired by heating it over a Bunsen burner.

"It blazed magnificently, throwing out eruptive jets of flame. Here, in the absence of surrounding oxygen, the

carbonic acid has every opportunity of becoming dissociated or reduced by the heated phosphorus." The residue, treated with hydrochloric acid, yielded a quantity of crystalline grains.

These when tested left scratches on the glass mortar and pestle, and even seemed to leave slight marks upon an agate pestle and mortar. Examined, however, under a microscope, they resembled pebbles more nearly than crystals, and this fact led to the theory that they were "miniature chalk-flints formed by the fusion and aggregation of the silicious cuticles of fossil diatoms." This was tested by precipitating pure carbonate of lime, soaking it with the phosphorus solution, and, after firing it, treating it with hydrochloric acid, when *all trace* of dissociated carbonic acid disappeared, and neither diamonds nor other crystalline residue remained.

COMMON SENSE IN EMERGENCIES.—The story is told of Brunel, the eminent engineer and builder of the Thames Tunnel, that one day, while amusing a child with tricks of sleight of hand, he attempted one which resulted in a serious accident to himself, and at the same time illustrated the danger of playing pranks with the mouth. The trick consisted in adroitly concealing a half sovereign in his mouth and pretending to bring it out at his ear. All at once, to his dismay, the coin slipped down into his gullet, and there stuck in spite of every effort, surgical or otherwise, to dislodge it. In this dilemma common sense came to the rescue. Brunel himself devised an apparatus to which he was strapped head downward, keeping his mouth open, when, to his inexpressible relief, the coin dropped from its dangerous position and rolled out upon the floor. A sword swallower, who once lost a bayonet in his throat during one of his public performances, resorted to similar means for recovering it, and was equally successful.

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ORIGINAL CONTRIBUTIONS.

Posture in the Treatment of Intestinal Colic and Ileus;
With a Consideration of the Pathology of "Spas-
modic Colic."

Being the Supplement to a Paper Read before the New York Academy of
Medicine, May 1, 1879.

BY FRANK H. HAMILTON, M. D.

MAY 1, 1879, I read before the New York Academy of Medicine a paper on Posture as a Means of Treatment in Strangulated and Incarcerated Hernia (subsequently published in the *Hospital Gazette* for June 9th, 1879), and which paper "was written as prefatory to the consideration of Spasmodic Colic and Ileus," for the purpose of calling attention to posture as a means of treatment in certain examples of these latter affections.

No opportunity of which I could conveniently avail myself has yet been afforded me to complete the reading of the paper before the Academy; and I have therefore thought it best to publish it, in order that those who read the first fasciculus, relating only to posture in hernia, might understand in what manner the facts there stated and the views there expressed might bear upon the treatment of colic and ileus.

Writers have spoken of several varieties of intestinal colic, such as simple spasmodic colic, bilious colic, colic from obstruction, neuralgic colic, inflammatory, rheumatic colic, lead colic, etc. These various forms of colic they have attributed to various causes, among which, as a *direct* cause, "spasm," with or without contiguous paralysis, is

made to occupy the most prominent position, and especially in the variety first mentioned.

The precise meaning which these writers attach to the word spasm, in its relation to colic, is not always clearly stated; and often they speak of it only casually, or rather as a suggestion, about which they may entertain some doubt, although they do not actually express a doubt.

Thus Dr. Austin Flint, in his Treatise on the Practice of Medicine, says the pain is of a character "supposed to indicate spasm." It might seem from this mode of stating the cause that the author saw some difficulties in the way of this theory, and that he did not regard it as proven; but when considering the subject of treatment he assumes a more positive tone, and declares that the "object of treatment is to relieve spasm as indicated by the cessation of pain. Measures are to be directed to this object without reference to the cause of the attack, or the existence of constipation." We suppose Dr. Flint to refer in this latter clause to the exciting causes, such as acrid ingesta, etc., the immediate cause being the spasm.

Wood, while offering no explanation of the precise nature and degree of spasm which may cause intestinal obstruction and colic, says of those rare cases which terminate fatally: "Death probably results from the spasmodic closure of the bowel, operating as an obstacle to the passage of the intestinal contents. It is probable that the great distention of the bowel above the contracted portion may in some measure paralyze the muscular coat, and thus act as an additional cause of constipation."

This language permits us to infer, I think, not only that spasm may in his opinion so completely close the intestinal tube as to cause death by complete obstruction, but that in a similar way, that is, by spasm resulting in complete occlusion, what he terms "simple, spasmodic colic," not ending in death, may be caused. Indeed what else can be meant by a colic giving rise to obstinate constipation, and caused by a spasm, except that the circular fibers of the intestinal tube contract upon themselves until no orifice remains through which air can pass from one portion of the gut to the other? If, however, writers have generally used the term spasm as indicating only a *moderate* constriction at certain points of the intestinal tube, or as only an increased peristaltic action, it is not

clear how either of these conditions could cause obstinate constipation or lock up the gas and other contents in circumscribed portions of the canal. Certainly it would have been better if they had given some clearer idea of what they mean when they speak of spasm as causing colic; and if we have misunderstood them it is because their language is indefinite, and we are left to an inferential construction. We infer that they mean complete spasmodic occlusion because they do not say to the contrary, and nothing short of this could produce the results frequently observed in this class of cases. In fact I am now reminded that Wood speaks even more positively as to the relations of the constipation to the spasm, when he says of simple spasmodic colic, "constipation is the result and not the cause of the spasm," p. 651. We are therefore not left in doubt as to his opinion at least.

Gross speaks of intestinal obstruction due to spasm.

Says Erichsen, speaking of intestinal obstruction: "It is of much importance to bear in mind that severe and even fatal intestinal obstruction may occur simply from spasmodic colic."

In Ziemssen's *Cyclopædia of the Practice of Medicine*, "spasm of the bowel" and paresis of contiguous portions are mentioned as giving rise sometimes to the phenomena of colic, but no allusion is made to the degree of spasm which may occur, nor to spasm as causing complete occlusion of the intestinal canal.

But speaking of "ileus spasmodicus, which term I understand to mean, essentially, the same thing as 'colica spasmodica' and to embrace the same pathologico-anatomical conditions," Leichtenstern says: "The idea of an ileus spasmodicus, like an icterus spasmodicus, lasted longest, even to the middle of the present century. To day the question of the existence of such an affection no longer calls for serious discussion."

This statement of Leichtenstern seems to me to imply that among the advanced medical scholars of the last half century the idea that spasm can completely occlude the intestinal canal so as to obstruct the passage of gas, and in some cases to cause death (in which cases of persistent and fatal spasm, alone would it be termed ileus perhaps), is abandoned. But my knowledge of the literature of this subject is too limited to allow me to say that this is the real conclusion of our best pathologists and medical

scholars. But if this idea of ileus spasmodicus is abandoned it saves me much labor, or at least renders it more easy to secure attention to my own, and what I suppose to be novel views as to the immediate cause of the phenomena in many cases of so-called spasmodic colic and spasmodic ileus. Certainly if spasm is to be rejected as being an insufficient explanation, we must now find some other which is sufficient, and I am not aware that this has been done.

It must be understood that I am not seeking for the remote causes. These have been studied with diligence, so far at least as relates to some of the forms of colic, including all the forms of purely neuralgic colic, lead colic, etc., by Romberg, Kussmaul, Maier, and others, who have traced the remote causes to certain changes in the sympathetic ganglia, or to certain influences operating mainly upon the sympathetic system; or, in the case of acrid and irritating ingesta, the causes of spasmodic colic have been ascribed to reflex actions, inducing pain, partial spasm and partial paralysis, increased and diminished peristaltic action in different portions of the intestinal tube.

What we are now inquiring about is how to explain the sudden, complete obstruction of the intestinal tube in certain cases of colic accompanied with acute pain, and its equally sudden relief, followed soon by a recurrence of the same phenomena, when these phenomena are evidently not due to impacted *fæces* or to other palpable causes, and which phenomena have usually been designated as spasmodic colic. We are searching for the immediate cause of the obstruction in these cases.

Lest I should have misunderstood the views of Leichtenstern, and lest the opinion may not have been abandoned that these phenomena are due to spasm alone, permit me to give my own reasons briefly for supposing that they are not so caused.

I can not think that spasmodic occlusion of any portion of the intestinal tube is possible, except at its two extremities, the pylorus and anus, and possibly at the ileo-cæcal valve, and at the junction of the ileum with the rectum.

The circular unstriped muscular fibers are nowhere else sufficiently aggregated to render it probable that they could do anything more than to cause a very slight narrowing of the canal; and they nowhere encircle the in-

testine entirely with continuous filaments. Their function is, in connection with the longitudinal fibers, to cause a slight peristaltic action, under the influence of which, long-continued, or frequently repeated, the contents are gradually moved forwards, or in some cases backwards (antiperistalsis). They have never been employed like the sphincter ani, or the constrictor vesicæ, to obliterate the channel. They were not needed for such a purpose, and there is therefore no anatomical provision for its possible occurrence.

Nor does any one pretend, so far as I know, ever to have seen such an occurrence, either before or after death. Yet opportunities have not been wanting before death in cases in which portions of the intestines have been exposed to view during the progress of surgical operations, or in consequence of surgical accidents, which have removed large portions of the abdominal walls; and in these latter cases the conditions are the most favorable possible for the production of spasm, namely, the presence of nervous shock consequent upon the injury, and the exposure to air and other irritants. After death, in man and other animals, the peristaltic action is often, for a time, greatly increased, yet no one has observed the phenomena in question, and which Dr. Wood supposed to exist when death was caused by spasmodic colic. Intestinal strictures have been found, but no one has pretended to have seen a spasmodic stricture of the intestine either before or after death. In a few experiments which I have made upon the intestines of animals just killed, no spasmodic occlusion has been obtained under the influence of irritants which was sufficient to prevent the passage of gas.

THE WRITER'S THEORY.

The explanation of the phenomena in question which I offer is, that in consequence of an unusual accumulation of gas in the intestinal tube, certain portions are expanded and elongated, until, under the counter pressure of the abdominal parietes, insufficient room is left for their normal repose and relative adjustment, and they become at certain points doubled upon themselves and possibly upon each other, and the sharp angular reflexions interrupt or actually occlude the passage.

The great length of the mesentery permits, in a healthy state of the bowels, a great latitude of motion to the small

intestines; and in consequence of the peristaltic action, and of changes in the form, volume and position of the abdominal cavity, these changes and actual transpositions or dislocations of the small intestines are constantly occurring; but when inflated with gas, and especially if at the same time the peristaltic action is increased by acrid ingesta, so that the natural movements of the intestinal tube are greatly exaggerated, their ready adjustment to each other is rendered difficult, and a doubling upon themselves, and sometimes perhaps upon each other, or even a slight twisting, would seem to be rendered probable, if not inevitable.

It is not improbable that this doubling of the intestinal tube is rendered more likely to happen on account of a certain amount of narrowing of the tube from spasm, and its actual dilatation in the portion of intestine immediately above, or that the presence of a small amount of hardened fæces may favor the doubling.

One ground, and possibly the chief ground for the supposition so generally entertained heretofore, that intestinal colic is in most cases due to spasm, causing an occlusion of the channel, has probably been that, if it did actually exist to the extent of causing complete occlusion, it would satisfactorily explain the symptoms usually present. In reply to this very specious argument it might be sufficient to show that the supposition was impossible; but, admitting its possibility, the theory which I have offered explains these phenomena equally well, and perhaps better than the theory of occlusion from spasm.

1. AS TO THE OBSTRUCTION.—The doubling, slight twisting, or entanglement of the intestinal tube, is equally competent to cause an obstruction at some point as a spasm.

2. THE PAIN.—The pain is probably occasioned by the pressure of gas and other contents against the distended gut; and, possibly, it is increased in some cases by exalted sensibility at the seat of obstruction. Indeed, the pain must always be less or greater in proportion to the healthy or morbid sensibility of the parts involved.

3. THE PAROXYSMAL CHARACTER OF THE PAIN, under the theory which I have adopted, finds a ready explanation in the peristaltic action of the intestinal tube. In a normal condition peristalsis is known to be alternating, or paroxysmal, with intervals of complete rest. Under the

excitement caused by irritating ingesta, the peristaltic action is still paroxysmal, but more urgent or violent, and is, in itself, probably the direct source of those pains which, in an ordinary attack of colic, come and go at somewhat irregular intervals.

Whatever other symptoms may be present in intestinal colic, are as readily explained by the theory of doubling, twisting, or entanglement, as by the theory of spasm.

4. EVIDENCE DRAWN FROM THERAPEUTICS.—Dr. Flint says, "The morbid condition in colic is supposed to be spasm. Its seat is therefore the muscular tissue of the small or large intestines. That this is the pathological character of the affection, is shown by the kind of pain, the constipation, together with the other local symptoms, and the therapeutical measures which are found to be successful." The author proceeds to insist upon the importance of subduing the spasm, especially by the use of opiates; since, "so long as the spasm continues, there is a resistance to the action of cathartics."

I do not think, admitting that Dr. Flint's therapeutics are correct, that the inference which he makes, namely, that the opium and other similar remedies, which are successfully employed by him, prove that the true pathology of the affection is a spasm, is logical; or, to say the least, I do not think this conclusion is inevitable. Since it may be that the opium merely allays the acute pains by diminishing the nervous sensibility, or arresting or diminishing the peristaltic paroxysms, and permitting the patient to have a few hours of rest, until the intestines have time and a better opportunity to gradually unfold and adjust themselves.

But opium and morphine do not always cure a "spasmodic colic." Indeed, my later experience has been that intestinal colic is most quickly and most permanently cured by a full dose of some aromatic and stimulating cathartic, such as the tincture of rhubarb with ginger. There are cases, however, in which only a full dose of some active sedative will succeed.

I do not pretend to know how remedies of either class effect their good results—possibly the stimulating cathartics act by increasing still more the peristaltic action—but more probably causing at first an inverted or anti-peristaltic action, which inverted action frequently occurs

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for reasons which physiology explains, even in the normal condition of the intestine.

My only purpose in alluding to the matter of therapeutics, is to illustrate how little they can be relied upon as a means of determining the pathology of the disease now under consideration, or perhaps of any other disease.

I do propose, however, to refer presently to my own brief experience as to the effect of posture in these cases, and to apply this experience in illustration of the soundness of my theory; for the reason that it is the application of a purely *mechanical* treatment for the relief of a mechanical, not strictly physiological or pathological cause or condition. The laws of mechanics are better known than the laws of therapeutics, and can be more safely applied in the solution of a question of this sort.

A young man was suffering from a severe attack of intestinal colic, which, after some hours, I was able to relieve by medication. On the following day he sent for me again, the colic having returned with about the same severity as before. It was probably two hours before I saw him, and then he was perfectly relieved. He at once explained that his friend, a young man at whose house he was a guest, had told him that he had often relieved himself of a colic by elevating his hips with pillows, or over the end of a sofa. My patient made the experiment, and immediately began to discharge gas from the rectum with the effect of prompt and complete relief of the colic.

More recently, in a similar case, I resorted to the same treatment in a case of severe colic, with a like result.

A mother of several children informs me that she has often noticed that, when her infants have been crying with colic, she has raised them by the feet, as in the act of applying a diaper, and the change of position was followed by an escape of gas, and sometimes by a free *sæcal* evacuation, after which the child was relieved.

These are all the facts of experience which I have to relate, but these seem to admit of no other explanation than the one I have given; and it was, in fact, from these few observations that I was led at first to question the correctness of the generally accepted theory, and to substitute my own. The argument, however, seems to me to rest upon a much more substantial basis than these facts, namely: the theory of spasm being rejected as impossible,

the theory of displacement furnishes the only remaining rational explanation.

I will add just here, although somewhat out of place, what Niemeyer says at page 591: "We may often clearly perceive that the gas is driven forwards against the fæces, or some other obstruction, and, there arrived, excites the most severe pain."

To my mind the supposition that a doubling of the gut has caused this, in at least a majority of cases, rather than a fæcal obstruction, is by far the most reasonable. This phenomenon occurs quite as often when the contents of the gut are fluid as when they are solid. It occurs (without pain, however) often when the patient is in perfect health. Gas can be felt confined in limited portions of the gut, forming phantom tumors, and which suddenly disappear. If one will listen with the ear against the abdomen, a similar phenomenon can often be detected, unaccompanied with pain, because there is no exalted sensibility, no spasm, and no violent peristaltic action.

In the cadaver I have often also witnessed this very doubling of which I speak. In attempts to inflate the intestine they have often become doubled upon themselves, and suddenly and completely arrested the passage of air, and this could only be overcome by pulling the intestines out, or by disturbing them in some way.

ILEUS.

I have refrained from any allusion thus far to the fact that there is a well-known condition of the intestinal tube called ileus, in which the existence of displacement is recognized as the anatomico-pathological condition, or, more properly, as the immediate cause. This displacement, consisting in most cases of a twisting of the tube, or of a convolution upon other portions; but a reflexion or doubling upon itself is not enumerated among the possible causes. The condition is attended with obstinate constipation, great pain, and usually results in death. Ileus may occur at any age, and almost in any portion of the alimentary canal.

It would seem to be a legitimate conclusion from the present argument, that ileus was in certain cases essentially the same as what has been called "simple spasmodic colic," both being caused by mechanical obstructions arising from displacements and malpositions of the intestinal

tube. The essential points of difference probably being that in colic there is simply a doubling of the gut, which is soon rectified by the natural actions of the intestines, or by the aid of medicines, while in ileus, the twisting or entanglement being a form of displacement less easily rectified, is apt to continue to a fatal issue. It is even probable, or possible, that some cases called "spasmodic colic," and which have terminated favorably, were in fact slight cases of ileus, but in which cases the twisting was spontaneously rectified and a cure thus effected. We might therefore add to the doubling of the intestine as a cause of colic, the possible occurrence of a mere twisting of the gut—an incipient ileus; and it is not impossible, on the other hand, that there may be cases which are termed ileus, and which have terminated fatally, in which the sole cause of obstruction was a doubling of the intestine, and not a twisting or entanglement of the intestine.

What I have further to say upon this subject of posture in its application to other accidents than hernia and colic, is wholly inferential. If elevating the lower portion of the body, so as to cause the heavy organs, such as the liver and spleen, to fall toward the head, dragging the intestinal viscera after them, can reduce a hernia or relieve a colic, it is reasonable to suppose that it might occasionally overcome an ileus or disengage an intussusception.

It is hardly necessary to say that the writer has no thought that the mechanical effects of posture will cure all, nor perhaps many of either of the maladies referred to; nor, indeed, that it shall be a substitute for any other suitable mode of treatment; but only that it be made to supplement other means, in the rational hope that it may sometimes prove effectual, or, at least, useful.

NOTE.—I wish to express my thanks to Dr. W. R. Bird-sall, of this city, for several of the references to German writers made in this paper, and to say that, at my request, he proposes to pursue the study of this subject experimentally.

It is also necessary for me to add that so far as the application of posture to the treatment of hernia and ileus is concerned, there is nothing original in my observations, although the philosophy of the method which I have given is probably new; and that, in its application to spasmodic colic, both the method and the explanation are believed

to be new. My attention has been called to the fact that some one has written very recently on the value of posture in the treatment of colic; but I have not seen the paper, nor do I know the name of the author, nor am I informed that the paper was published before the publication of my paper on hernia, in which the views now expressed were foreshadowed. Of course this is a matter of no consequence to me or to the world, but I did not wish to be suspected of appropriating the suggestions of others, and of offering them as original with me.

Clinical Lectures.

CASE I.—*Irritative Cough from Elongated Uvula—Operation.*

GENTLEMEN: This child, about seven years of age, presents an illustration of a persistent dry cough without any pulmonary disorder. The explanation, however, is at once apparent upon directing our attention to the throat. An elongated uvula rests upon the base of the tongue, and constantly titillates the entrance of the larynx, thus setting up spasmodic cough. From debility of the parts, which is generally accompanied by more or less inflammation or chronic sore throat, the soft palate becomes relaxed, and the uvula drops down upon the tongue; or the uvula itself may be hypertrophied and elongated, as in the present case. This condition is most likely to be set up in young subjects, although it may occur at any time of life, and is often found associated with a strumous diathesis and a delicate constitution.

This apparently trifling affection may produce considerable inconvenience. Hawking, coughing, constant irritation, sense of strangulation during sleep, and nightmare, are among the immediate results; among the later ones may be feared the occurrence of tubercular deposit in the lungs.

If the disorder be due simply to the relaxation of the soft palate, which often occurs in consumptives and dyspeptics, the use of astringent gargles, and applications—among the best of which may be named nitrate of silver solution, gr. xx to gr. xxx, applied with a swab twice a week—may be followed by relief from the symptoms. But when there is a marked hypertrophic elongation of

the uvula, the proper remedy is the removal of a considerable portion of the organ, which is readily accomplished with the scissors. For this little operation no chloroform will be needed, except where the patient refuses to co-operate with the surgeon. Sometimes in young children much trouble is experienced from their active struggling, and then the operation is greatly facilitated by a little of the anæsthetic.

I have now performed the operation on this young lad, and would have accomplished it more satisfactorily if he had not resisted. No hemorrhage will occur after gargling with a little cold water or vinegar and water. I shall insist upon the importance after this operation of his using a liquid diet for a few days, and of being careful not to catch cold.

Remarks Upon Chloroform.

In regard to the administration of the anæsthetic, you should not forget that *chloroform should never be given with the patient in an erect, or even in a semi-recumbent posture.* Owing to the tendency to syncope and heart-failure, the head should not even be raised from the pillow, nor the neck bent. Of course, you would not give chloroform nor any anæsthetic immediately after a full meal, on account of the danger of incomplete vomiting, and strangulation. *No food should be given for at least four hours before the administration of chloroform.* The assistant in charge of the anæsthetic should devote his entire attention to watching its effects upon the patient, and should not look at what the surgeon is doing. The administration must not be hurried; *chloroform must not be crowded, but given deliberately, and with plenty of atmospheric air.* In regard to the amount necessary to be used, in the case of an infant, you have noticed that only a few drops are placed upon the center of a folded towel, in the manner in which you have frequently seen it done by my experienced assistant, Dr. Hearn; for an adult the amount may be increased to half a drachm at first, to which a few drops are added from time to time to supply the loss by evaporation. *The clothing must be loose about the chest and the abdomen, during the administration.* Should a change be noticed in the pulse or appearance of the patient, the chloroform must be at once removed and the patient turned upon his side, the tongue drawn forward, and the face dashed with cold water; and

the chest, or, in the case of a child, the nates, well whipped with a fringed towel wet with ice-water. If the patient do not revive, the foot of the table may be elevated, so as to allow the head to hang down, or the patient may be lifted by the heels, or "inverted," while artificial respiration is attempted. The vapor of nitrite of amyl, or spirits of ammonia, may be cautiously given, which sometimes has a remarkable effect.

With care in administration a fatal result may generally be averted, especially if the tendency to syncope be borne in mind, and prompt measures taken to overcome it. By pursuing the methods just laid down, I have successfully administered chloroform in probably more than five thousand cases without a single fatal result. Chloroform should be administered with especial care to habitual drinkers, and to those who are the subjects of heart or kidney disease. It seems to be particularly applicable to young and middle aged persons. In strong adults, it occasionally happens that we can not make them unconscious with ether, and we are obliged to give them a small amount of chloroform in addition.

Although chloroform does not commonly cause vomiting, and is much more pleasant and efficient than ether, I do not now use it as frequently as formerly, but have yielded my preference in deference to popular opinion, which at present holds the surgeon responsible if any accident should happen. I therefore employ the safer but less agreeable agent to a very great extent, as a substitute for the chloroform.

CASE II.—*Progressive Dyspnœa with Aphonia—Stenosis of Glottis, caused by Intra-laryngeal Growths—Tracheotomy.*

I have here a very interesting patient, sent in by Dr. Cohen from the Out-patient's Department, he having presented himself at the Laryngoscopic Clinic a few days ago. Dr. Cohen will read his history, and tell us what has been revealed by laryngoscopic examination.

"Charles M. I., sixty-three years of age, applied last week for advice in regard to an obstruction of the larynx, which had commenced to be troublesome six months before, but had progressively increased until his voice is reduced to a hoarse whisper; he was also subject to severe attacks of dyspnœa. He stated that he came to

this hospital a year ago for some local trouble in his throat, and was informed that he had growths in his larynx, but I do not remember having seen him before. However this may be, examination now reveals marked stenosis of the glottis, the edges of the vocal chords being agglutinated by inflammatory adhesions. In addition to this, there are evidently some papillomatous growths below. The stenosis has changed the shape of the glottis, so that the opening, instead of being from before backwards, runs obliquely; on account of the great enlargement of the left wall of the larynx, which encroaches upon the canal. This enlargement is probably due to a malignant growth."

Dr. Cohen further said that he considered the patient in danger of suffocation during one of his attacks of dyspnoea, and that the only treatment to be thought of, at present, was tracheotomy, which would enable him to breathe freely. After opening the trachea as high up as possible, perhaps enlarging it so as to perform laryngo-tracheotomy, by dividing the cricoid cartilage and crico-thyroid membrane, it is possible that the operation might be extended so as to remove some of the growths. It was requested that no anæsthetic should be given on account of the dyspnoea. A tracheotomy tube would have to be inserted after the operation, which he will have to wear during the remainder of his life.

Professor Gross remarked, while proceeding to perform the operation, that laryngotomy is easily performed under ordinary circumstances. An incision is made through the skin and fascia, in the middle line, extending along the front of the thyroid and cricoid cartilages, exposing the crico thyroid membrane, which is then divided, and the tracheotomy tube inserted. A small artery—the crico-thyroid—sometimes requires ligation before opening the larynx. Tracheotomy, however, is more difficult; and, in order to accomplish the operation satisfactorily, the aid of an anæsthetic is generally required, especially in the case of a struggling and crying child. I do not know of any operation in the whole range of surgery which I dread more than that of tracheotomy in a child with a fat neck. In the present case the neck is thin, and, as the patient will not oppose the operation, I do not anticipate any serious trouble.

In performing tracheotomy, the patient being placed in the recumbent position, with the head thrown far back

and the neck elevated, a median incision through the skin is carried from the cricoid cartilage nearly to the top of the sternum. The fascia, in the middle line, is taken up on a grooved director and cut, the sterno-hyoid and sterno-thyroid muscles being cautiously separated from those of the opposite side with the handle of a scalpel. The thyroid plexus of veins should be pushed to one side, and held out of the way; the middle thyroid artery will occasionally require a ligature. Whenever there is much embarrassment in breathing, the veins of the neck are generally distended, and considerable hemorrhage may ensue if they are accidentally divided. This bleeding should be entirely checked before opening the trachea, or it might cause suffocation. After the operation, the tube, which for convenience of re-introduction after cleansing is surrounded by a canula, is inserted, and an anodyne is administered. The patient must now breathe moist, warm air, at a temperature not lower than 75° to 80° (F.). The tube should be taken out three or four times in the twenty-four hours, in order to clear away mucus and blood; and for the first few days the constant attention of a special nurse is required.

What the effect upon the growth may be I can not tell, but one of the most troublesome features in the case will doubtless be greatly relieved by the operation we have just performed.

(The patient rallied well after the operation, but sank at the end of a week from exhaustion. There was no pulmonary involvement. A microscopic examination of the larynx confirmed the diagnosis.—F. W.)

SELECTIONS.

Treatment of Typhoid Fever.

THE following is taken from a lecture, by Sir William Jenner, delivered at Birmingham:

The natural duration of a well-developed case of typhoid fever is from twenty-eight to thirty days; hence subsidence of the fever before this date should be regarded with suspicion, and the patient not treated as if the specific disease had ended.

In the earliest stage of the disease the patient is prone to commit certain mistakes in treating himself. He may think that he has a common cold in his limbs, as it is called, and attempt to throw it off by strong exercise. He may consider that he is suffering from biliary derangement, and attribute to this the headache, disturbed nights, disordered bowels, etc., and take a dose of drastic aperient. He may think the weakness he feels is to be removed by food and wine, and accordingly prescribes for himself. This self-treatment may add greatly to the severity of the coming illness, and may cost the patient his life. If the temperature renders it *possible* that the ill-defined symptoms are due to the poison of typhoid fever, the patient should be absolutely confined to bed. I very rarely advise a patient's removal to his home, if that be distant, so satisfied am I that fatigue of travel tends to make a mild case severe and a bad case fatal. From the first the patient should be restricted to liquid diet, and bread in some form if the appetite requires it. Milk is valuable in fever, but should be given with caution; for, as a diet, in unlimited quantities, it has led to serious troubles. The caseine of the milk has to pass into a solid form before digestion can take place. Curds form in the stomach, and the digestive powers being weakened in fever these curds may remain unchanged in the stomach and produce considerable disturbance of the system, as restlessness, elevation of temperature, pain in the abdomen, and diarrhea. Said a distinguished chemist, "Do not forget that a pint of milk contains as much solid animal-matter as a full-sized mutton-chop." I have known a patient drink two quarts and more of milk in twenty-four hours—equal to four mutton-chops. Is such an amount of solid food good for a patient suffering from typhoid fever?

The fever must be met by rest, quiet, fresh air, mixed liquid food, and bland diluents, and the exclusion of fresh doses of poison, as in the milk, water, foul air from drains and from the excreta. For continued sleeplessness, a combination of henbane, bromide of potassium and chloral has acted very nicely; and, in the later stages, previous to signs of nervous prostration, I have never seen any ill effects from these drugs. A warm bath may induce sleep. While opium may do good, it is on the whole a most dangerous remedy.

The chief cause of diarrhea is excess of that due to the intestinal specific changes are error in diet, catarrhal inflammation of the mucous membrane, and irritability of the bowels. In treating the diarrhea, if stools are so frequent as to be dangerous, it is often sufficient to examine the stool to detect the cause and remove it, *e. g.*, curds of milk. In strongly alkaline stools diluted sulphuric acid sometimes affords marked relief. Four ounces of starch-water thrown into the rectum night and morning may check frequent action, or three to ten drops of laudanum in an ounce and a half of starch-water thrown into the bowel night and morning, *after* the passage of a stool. Carbonate of bismuth in twenty-grain doses every four or six hours is one of the best remedies for the catarrhal inflammation of the bowel itself.

In constipation in typhoid fever a small-sized enema of thin gruel, repeated every other day, is usually sufficient. Deep ulceration of one or more of Peyer's patches is not an infrequent cause of constipation. A single *deep* ulcer will paralyze the action of the bowel, and so cause constipation; and this is to be kept in mind as a fact of the highest practical importance when it is proposed to relieve the bowels by an aperient.

Of all the remedies proposed for the relief of flatulent distention of the abdomen, turpentine applied externally is the most extensively employed in practice. Now I must say, with reference to the external application of turpentine, that I have never seen a diminution of the distention which seemed to me to be *propter hoc*. Charcoal has proved a most efficient agent for preventing gas-generating decomposition, which results from food which finds its way into the intestine, mingling with the fetid secretions from the diseased intestines, and with sloughing particles from the solitary and agminated glands. So it is important to select a food substance which leaves no solid residue to undergo decomposition. The administration of pepsin and acid, at the same time as a food is often advantageous.

In hemorrhage from the bowel in typhoid fever, even in ever so small a quantity, the patient is to be kept in the recumbent position, and all movements of the bowels restrained if possible. An enema of starch-water and laudanum should be given at once, and laudanum and gallic acid given every few hours. Nourishment in the most

concentrated form should be given, as essence of beef, and milk should be avoided on account of the residue it leaves. When the loss of blood is sudden and copious, or frequent, subcutaneous injection of ergotine may be used. In tenderness of the abdomen, warmth and moisture afford relief in the majority of cases.

From the commencement of typhoid fever the patient's temperature is elevated. Neither my own limited experience nor the evidence adduced by others in its favor has carried conviction to my mind of the advantages of cold baths in typhoid fever, although I entertain no doubt that the direct cooling of the body is in some cases essential to the preservation of the life of the patient. Where the temperature is 106° , rising to 107° , and still advancing, the only source of hope is rapid depression of the temperature by cold baths. Cold applied to the head by means of the India rubber tubing cap will often suffice for the reduction of temperature, or tepid sponging of the body will reduce it a little and soothe the patient. When high temperature is conjoined with rapid, feeble heart's beat, the administration of alcohol often reduces it. Quinia in large and in small doses, and salicylate of soda, act alike in reducing temperature; but I must say I have been disappointed in these two drugs, and have seen both occasionally do much harm by disturbing the stomach and interfering with digestion. Gentle perspiration is advantageous, and the most certain means of producing it is the application of a large, warm and moist flannel covered with oil-silk over abdomen and chest, and the administration of warm, bland fluids. To avert death from failure of heart-power, alcohol is the great remedy. Tremor, out of all proportion to other signs of nervous prostration, is evidence of *deep* destruction of the intestine. In these cases alcohol should always be given to increase nerve-energy and to limit the sloughing and ulceration.—*American Practitioner*.

Speedy Cure of Nasal Polypi.

DR. CARO, in the *Medical Record*, gives the following painless method of removing nasal polypi, never before made public by the originator:

Mr. G. M——, æt. 60, ten years ago applied to me for

relief from a soft polypus in the left nostril. I proposed evulsion; but not liking the proposition, he left, and I never heard of him until last May, when he returned with another polypus in the same nostril. I advised evulsion once more; he declined it again, and desired me to cure him the same way as did Dr. G. Ceccarini the first time (ten years ago). On inquiry, Dr. C. kindly answered: "The medicine which I use for removing nasal polypi is four or five drops of pure acetic acid, injected with the hypodermic syringe within the body of the polypus once only, very seldom twice; the polypus generally drops off within three or five days without discomfort or pain. Disinfecting lotion will correct the offensive odor." With this information, on the twelfth of August, in presence of my friend, Dr. J. L. Little, I injected the polypus with six drops of chemically pure acetic acid, and instantly we saw the discoloration of it from red to white. Business preventing him from returning, I could not observe the daily progress; but when he called on September 2d, he had only a small portion of it yet adhering to the middle turbinated bone, the other having dropped off the fourth day after the injection; this remaining portion was injected with four drops of the same acid, and on the third day dropped off, leaving his nose clear, without sore or a vestige of it. Neither of the two operations were followed by any unpleasant symptoms, save a slight smarting from the pricking by the needle when the acid was injected. The offensive odor arising from the decaying mass was corrected by a weak carbolized wash. The long interval from the destruction of the first, and the appearance of the second—ten years between—precludes the possibility of this last being a portion of the first, but a new one.

The Terminations of Pneumonia.

FEW observations or theories in medicine which have once been regarded as unassailable, escape question in succeeding generations. Many of them also undergo a period of denial and sometimes of re-establishment. Further investigation demonstrates that the observations, if not the theories, of older workers deserved more regard than had always been accorded to them. The question of the terminations of pneumonia furnishes an illustra-

tion of this, as Prof. Leyden has shown in an excellent lecture delivered to the Charite Medical Society, and published in the *Berlin Klin. Wochenschrift*. The old pathologists taught that pneumonia which did not resolve might end in suppuration, in gangrene, or in chronic inflammation and induration; and although in this country these methods of ending, as occasional rare events, have perhaps never been doubted, they have not escaped question at the hands of German pathologists, more than one of whom has doubted whether these terminations of acute fibrinous pneumonia ever actually occur. The occurrence of these events is in itself extremely difficult of proof, the ground for doubt being the question whether the pneumonia thus ending was really of the acute fibrinous variety in a previously healthy lung, a point naturally not easy of demonstration.

The termination of acute pneumonia in suppuration, in abscess of the lung, was first doubted by Laennec, and it is certain that such ending is far less common than was at one time assumed; but it must, in Leyden's opinion, be regarded as unquestionable, and he cites a well-marked instance which has been recorded in the last volume of the "Charite Annalen." A similar doubt has been expressed regarding the termination in gangrene. It is certain that a large number of the cases of inflammation of the lung which terminate in gangrene have a special type, which suggest that they differ essentially from cases of primary fibrinous pneumonia. Crucial cases are difficult to find, but Leyden in this paper adds another to a series previously published—a case in which the patient came under observation on the fifth day of illness and died on the twenty-third, and hepatization in the lower lobe coexisted with diffuse gangrene in the upper. There was no trace of circumscribed or embolic process. The patient was extremely prostrated by the pneumonia, and with the diminution of the fever the heart's weakness increased still more, and it is assumed that the compression of the vessels by the exudation was greater than the feeble heart could overcome.

The question of the termination of pneumonia in chronic inflammation of the lung is of the greatest practical importance and of the greatest difficulty. We must consider, not merely its termination in induration, but in all those chronic processes which may lead to phthisis—as

caseous pneumonia and desquamative pneumonia. Can phthisis result from acute pneumonia in a previously healthy lung? At first sight the answer appears simple. Many cases of phthisis appear from their history unquestionably to have commenced with acute pneumonia. But more careful examination into the history of such cases demonstrates that, in the majority, the pneumonia was not of regular course, but was evidently subacute or chronic. Cases in which the pneumonia was really acute are very rare, and even here we are in doubt as to whether the lung was not previously the seat of phthisical changes. The difficulty of the proof is very great in the case of hospital patients, who come under treatment only when the disease is developed or advanced, and Leyden believes that the process has not yet been demonstrably proved, while one of the first authorities in Germany, Buhl, denies that it occurs.

If we consider the anatomical processes, fibrinous pneumonia appears at first far enough removed from the changes in phthisis, but in the stage of resolution the difference between the two processes is smaller, and is diminished still further if we deny that the phthisical process has any specific characters. Thus the possibility of the result must, on anatomical grounds, be conceded, and its clinical probability, as we have seen, is great, but the actual proof has not yet been given, and is not quite furnished even by a case which Leyden adduces as affording almost a proof. The pneumonia came on in a man twenty-two years of age, after exposure to cold, but at an interval of fourteen days, which constitutes a weak point in the case. The inflammation ran a normal course, except for the incompleteness of resolution. The temperature became natural, but shortly afterward the investigation of the sputum showed the existence of commencing phthisis, which the physical signs soon confirmed.

Simple retarded resolution in pneumonia is a condition of much practical importance. In some cases the physical signs remain for weeks, and even months, and then slowly disappear. Leyden states correctly that many such cases, coming under treatment at a later stage, are regarded as cases of phthisis, and help to swell the number of cases of consumption. Their distinction may be, as Walshe long ago insisted, most difficult. Leyden points out as the differential signs the persistence of the crepi-

tant rale at the end of inspiration (by no means, however, we think, always to be heard), the absence of large mucous rales, the slight degree or absence of retraction, and especially the examination of the sputum. This is scanty, greenish-yellow, and consists of fine threads and small globes, which are composed of pus-corpuscles and degenerated epithelium of the air-cells. He insists strongly on the importance of the microscopical examination of the expectoration in all such cases, and adds a series of illustrative cases, one of which is particularly instructive, since the pneumonia came on under observation, the patient being in hospital on account of enlargement of the liver, and ultimately dying of ulcerative endocarditis.

With regard to the causes of retarded resolution, Leyden points out that the process is influenced by age, occurring less readily in the old, but that this rule is of very limited application, since most of the cases he has recorded occurred in youthful persons. Physicians who see much of the diseases of children will probably agree with us, moreover, that the process is seen now and then in striking form quite early in life. We call to mind a case in which an acute basic pneumonia, of typical course, in a boy of five years, remained unresolved for three months, and then only cleared on removal to a higher altitude. Leyden insists also, with justice, on the influence of weakening of the circulation by the prexia, or by the other causes, and instances the tardy resorption of inflammatory exudation generally, in the pleura, pericardium, or peritoneum in those whose strength is low. A second, also important, element he believes to be an unusual density of the infiltration. Most of his cases suggested such a condition in an intense degree of dullness and slowness of rale. Similar dense infiltration is sometimes found in the young, so as to quench every sound at the height of the pneumonia. In the case which was investigated after death the view was confirmed in so far that, in many alveoli, there were very dense and firm plugs of fibrin, and it is readily conceivable that such plugs may resist disintegration much longer than those which commonly occur. An important aspect of the question is as to the anatomical changes which take place in the lungs in these cases, and which do not pass away when the retarded resolution takes place. Do such lungs recover perfectly, or are there not always changes in varying

degree similar to those the origin of which has been admirably traced by Dr. Wilson Fox in his article on chronic pneumonia in Reynold's "System of Medicine?" It is hardly conceivable that a lung can remain functionless for months, with solid instead of air within the air-cells, with the circulation persisting so as to nourish the walls of the air-cells, without these undergoing perversion of nutrition such as to prevent them recovering a normal state, even though the exudation within them is cleared completely. The point must await future investigation for its settlement.—*Lancet*, Jan. 3, 1880.

The Latest Improvements in Antiseptic Surgery.

PROFESSOR LISTER has recently delivered a clinical lecture, in which are described the fullest details of his antiseptic treatment, and the most recent improvements in the preparation of his applications.

The subject of the lecture was a young boy with empyema. The left pleura had been distended with pus. The heart was pushed over to the right side, so that the apex beat under the right nipple. Aspiration had been repeatedly practiced with the usual result, viz: reaccumulation of the fluid, and that fluid always yellow pus. The pleural cavity was opened antiseptically; that is, under carbolic spray. A large quantity of thick yellow pus was evacuated; and as air was freely taken in, not only at the time of the operation but at each dressing, there was a certainty that decomposition would have taken place if the spray had not sufficed to prevent it. Indeed, Professor Lister regards empyema thus treated as a test case of the power of the spray to arrest decomposition in the cavity of the chest. To cure an empyema, it is not sufficient to evacuate the pus by aspiration. There must be free drainage, and in order to secure this, a silver tube was inserted in the opening. This tube became filled with lymph, and for a day or two the contents of the pleural sac were retained. On removing the tube and placing the boy on his side, about an ounce of clear serum escaped. Thus was presented the beautiful pathological truth, that a pyogenic membrane ceases to suppurate when freed from irritation. After the operation, the child's general health began to improve. Before the

pleura was opened, he was becoming much reduced—the appetite was poor. There was absolutely no febrile disturbance after the operation, and the strength improved from day to day.

These results were obtained as follows: In the first place the skin was well washed with a 1-20 solution of carbolic acid. There is no need for soap and water, nor for sulphuric ether, as used by the German surgeons. The carbolic solution, if allowed a little time to act, penetrates the epidermis and hair follicles and any greasy dirt upon the skin, and is sufficient to purify the integuments.

In the next place the hands and instruments having been cleansed with the same antiseptic lotion, the opening was made under a thoroughly trustworthy carbolic spray. At the operation, and subsequently at each dressing, the greatest care must be taken that there shall be no chance of introducing into the chest any air other than spray. For several weeks the pleural cavity was filled again and again with spray atmosphere. Had unpurified air been once admitted, putrefaction would undoubtedly have occurred.

In the next place antiseptic gauze was used as a dressing. This has been recently improved. Originally it was made of one part of carbolic acid to five of common resin and seven of paraffin. It is now prepared from one part carbolic acid, four of resin and four of paraffin. The new dressing contains more carbolic acid and a little more adhesiveness. This last quality helps to keep the gauze more securely in place. The paraffin should be quite pure. The gauze so prepared is applied in eight layers, with a piece of rubber sheeting under the outer fold. When, as in empyema, there is a copious discharge of serum, loose folds of gauze are placed around the opening. The wound was dressed once in twenty-four hours, always under spray; but in many cases it may be necessary to change the dressing more frequently. In every case where there is necessary movement of the parts, elastic bandages are used to secure that the edges of the dressing shall be kept in contact with the skin. In empyema it is desirable to use a silver tube to secure drainage, as one of rubber is liable to be closed by contraction of the chest walls. The carbolic gauze may be used freely without any danger of carbolic poisoning. In the case narrated, the child was

clothed in it from his armpits to the hips. Care, however, must be taken to prevent the contact of carbolic acid with the wounded tissues. It is not to be injected into the drainage tubes or placed in contact with raw surfaces. Wounds are not to be syringed out with carbolic lotion.

If, however, the urine should become dark-colored and the appetite fail, or other symptoms of carbolic poisoning arise, boracic-acid dressings may be substituted, or, in the case of deep-seated affections, like empyema, salicylic jute may be employed. In large wounds and healing surfaces, it is therefore of the highest importance to protect the healing part from the irritation of the antiseptic itself. The protective has lately been improved. It still consists of oiled silk, but it is now covered on both sides with a good coating of copal varnish, which renders the oiled silk impermeable to carbolic acid. When the copal is dry the protective is brushed over with a layer of dextrine, in order that it may receive a film of antiseptic lotion before use. Upon the efficiency of the protective in excluding the irritation of the antiseptic, depends its power to prevent the extension of putrefaction from without inwards. Professor Lister states that this protective is soft and pliable when applied; that even dead tissues are, under its use, replaced without the process of sloughing, being absorbed just as catgut ligatures are absorbed; that under it blood clots become organized and new tissues formed by the organization of lymph without any process of suppuration. The protective then is carefully applied to the wound, having first been washed in the carbolic lotion. Then a layer of gauze is dipped in the carbolic lotion and placed on the protective. This and the subsequent layers of gauze must well overlap the protective, and the bandages be so applied as to maintain close contact with the skin. The efficiency of the protective may be tested by putting a piece of lint soaked in carbolic lotion, one to twenty on one side, and after some hours apply the tip of the tongue to the other side, when, if the protective be efficient, there will be no taste of carbolic acid.

At a discussion on antiseptic surgery at St. Thomas' Hospital, London, Sir James Paget expressed his belief that the antiseptic system was potent to arrest the speed of infectious diseases and diminish the mortality after operations. With Mr. Hutchinson, he admitted that ovar-

iotomy, osteotomy, incisions into healthy joints, the opening of large abscesses, could and should only be done under the protection of thorough antiseptic measures. Of all additions to knowledge this has been the greatest, and in that work he, who beyond all comparison, had done most, is Professor Lister, as much by the introduction of antiseptics as by provoking others to scrupulous care in the treatment of their cases.

Listerism has undoubtedly diminished the mortality and the danger to patients situated under unfavorable hygienic conditions, after surgical operations. Holding this belief, we may argue from the greater to the less, and assert our conviction that the same system is capable of preventing septo-pyemia in patients under almost all circumstances. The London *Lancet* believes that Listerism is destined to be the surgery of the future, because, however difficult to apply in individual cases, it guards our patients from unquestionable dangers.—*Western Lancet*.

Consanguineous Marriage.

M. GODET reported to the Medical Society of Rheims (*Michigan Medical News*) some interesting facts bearing upon the question of consanguineous marriage. Of nine children born to an uncle and a niece, who had united themselves in matrimony, two died at an early age, four are deaf mutes, one is an epileptic, while only two are healthy.

This is certainly a very fearful showing, but the case as it stands is a very imperfect argument against close inter-marriage. It is lacking in certain elements which are necessary to make it strong evidence against consanguinity in the marriage relations.

Reasoning from the analogies furnished by the inferior animals, there is nothing injurious *per se* in blood relationship of parents; that is, in its effects upon the physical constitution of the offspring. These analogies, so far from showing the relationship to be disastrous, demonstrate that it may be made positively beneficial. The breeders of fine stock understand this, and some of the finest strains are the result of in-and-in breeding. Instances are by no means wanting in which able men, and physically stalwart, are the children of parents between whom

there existed a blood-relationship. With these facts before us, it becomes necessary to look further than to the mere fact of the legally—and morally too—incestuous marriage for the cause of the disastrous results in the case cited. It would have helped to a solution if the reporter had given us some facts regarding the peculiarities of the parents. Was there an inherent tendency in each to any neurosis? Was there any constitutional taint common to each? These coincidences are liable to occur between parents ununited by any blood-relationship, and when they do occur the offspring of the union suffers. The same law applies to the better qualities of mind and body. The children of parents in whom there is a common genius will inherit that genius in an intensified degree. Stock-raisers, in propagating “points,” select for mating a male and female which have each the particular “point” sought. The feathering of a bird can be regulated with an almost mathematical certainty by the selection of the male and female. The patriarch Jacob understood the trick of “points,” and turned his knowledge to good account. Mr. Darwin, in his theory of natural selection and survival of the fittest, has demonstrated to the satisfaction of most minds that even different species have been created through an instinctive conformity to the principle of “points.”

Consanguineous marriages offend our sense of what is right; and under the hap-hazard system, or rather lack of system, of marriage which obtains, should be discountenanced and prohibited by law. If another system, however, prevailed than that under which the very erratic passion called love existing between a young man and a young woman is a sufficient warrant for them to enter into relations through which they may legally procreate, the scientific objection to blood-relationship in parents would be removed in a large measure. Consanguineous marriage intensifies in the child tendencies common to the parents, and is operative for good as well as evil. In cases in which it has operated for good it receives no credit, but when perchance the condition existed through which it intensified a vicious predisposition, it is held up as a crime against nature and morality.

Replantation of Teeth.

THE history of the replantation of teeth is so well known that we need not here reiterate it. But from the time of Hunter, who made known the possibility of transplanting teeth, these methods of treatment have been practiced by numerous individuals, both in Europe and America.

The question of replanting teeth appears to have had a somewhat spasmodic existence, and it has, notably during the present year, again been brought prominently before the profession.

In the number for March, 1876, of the *Bulletin et Memoires de la Societe de Chirurgie*, there is a very long paper by Dr. Magitot on this subject, containing a report of fifty cases. An epitome of this article was read by Mr. Charles S. Tomes, before the Odontological Society of Great Britain in March last (see page 160 of the *Review*). In our February number, page 55, there is an article on replantation by Mr. George Torpey; and again in this issue, at page 521, there is published a very excellent lecture by Dr. Thompson.

From all that has been written on this subject we may set forth the following conclusions:

Where the periosteum is healthy, teeth may be extracted, pulp canals filled and replanted with a large percentage of successes.

Where the periosteum is in a state of chronic inflammation, with the same treatment as before mentioned there is a less percentage of successes.

In cases of alveolar abscess the best results are obtained when, in conjunction with replantation, a system of drainage is established.

It is in cases of alveolar abscess which are difficult to treat in the mouth, that the practice of replantation is most justifiable. To obtain drainage of the substances exuded during the healing process different methods have been adopted, such as a fistula through the alveolar process to the apex of the root, and to this may be added a seton; also by having a groove cut in the side of the root, from its apex to the neck of the tooth. But Dr. Thompson has devised a novel method of drainage by having a tube running through the center of the root and opening upon the grinding surface of the tooth. When the cavity

which was occupied by the abscess sac has healed up, and all exudation ceased, the tube can be accurately filled up by a pin, which was adjusted to the tube before replanting the tooth. This principle of drainage adopted by Dr. Thompson is the most complete and effectual, where it can be adopted, of any method hitherto made known; yet we must not overlook the position of a tooth so tubed in the lower jaw, in which case the discharge has to accumulate until it reaches and is taken up by the cotton-wool dressing daily placed in the tube; whereas, with such teeth in the upper jaw, gravitation favors the exudation quickly passing away. Nevertheless, the practical results, some of which we ourselves have witnessed, in all cases where this system of drainage has been adopted, have been eminently satisfactory.

There are numerous instances of replantation where alveolar abscess has existed, and no drainage had been provided, and the cases have done well. But there are evidently more failures, and less good results obtained, when alveolar abscess is thus treated without drainage, than when drainage is provided for.

When replanted teeth have become firm and useful, future trouble is not necessarily overcome; for, in the course of one or more years, the process of absorption may bring about the loss of the tooth. With the view of reducing the liability to absorption, Dr. Thompson excises the portion of the root denuded of periosteum, and restores this with a cap of gold, through which he also passes the drainage tube. It appears that this cap of gold at the apex of the root has been tolerated, indeed, has not given rise to any perceptible disturbance, for, so far, eight months. Though absorption of the gold is not at all likely, yet any portion of the tooth substance which is contained within the alveolus is liable to be so eaten away. The tendency to destructive absorption of the root may, perhaps, be lessened by the removal of the necrosed portion, which is generally considered as an intolerant irritant; but it remains for time and observation to teach us whether a foreign substance, such as a gold cap, in this situation is more acceptable to animate nature than the tissue of her deserted habitation.

The position we have attained with regard to replantation in cases of intractable alveolar abscess may, there-

fore, be said to be that this treatment, to insure the best results, should be in conjunction with drainage.—*Editorial in the Monthlg Review of Dental Surgery.*

Trismus Neonatorum—Recovery.

BY JOHN COOPER, M. D., M. R. C. S. E.

ON January 20th, after a tedious labor of twenty-four hours, Mrs. M., aged twenty years (white), was delivered of her first-born mature female child.

At birth the funis was twice around the neck, which accounts for the delay in delivery; was in a state of asphyxia and exceedingly cyanotic. It took half an hour to resuscitate the infant. During that process a large quantity of frothy mucus, slightly tinged with blood, poured from the nostrils.

Eight hours after birth unilateral convulsions were observed of the left side. This was at 8 P. M. Twelve hours after it was general, with frequent spasms; rigid lower jaw, with mouth sufficiently open to admit a finger; difficult breathing, livid countenance, clenched hands, with thumbs flexed into the palms, and produced on the slightest motion, commencing with a little scream.

* When seen was immediately recognized as an old enemy that had not been witnessed by me for twenty-four years previous, who had vanquished me every time, and had hoped never to meet again. Have treated several cases among the negroes in Louisiana, but no means then used prevented a fatal termination. It has been stated that these cases "invariably occurred on the sea-coast, from cold and damp weather, and unknown in the interior of the country."

All the cases previous to this one were seen in warm weather, in the South, not less than two hundred miles from the sea-coast.

The surroundings in this case were all that could be desired—cold and dry, with thermometer about 32° Fahrenheit. I did not fail to warn all, except the mother, that they must prepare for a fatal result.

TREATMENT.—Thinking that it might relieve the brain, free catharsis was induced, with calomel and castor oil; after which five-grain doses of bromide of potassium in

sweetened water. Very soon, observing no improvement, had recourse to the following recipe: *Ext. physostigma*, gr. ss., glycerine, ʒij.; aqua, *f.* ʒvi. Dose, thirty drops every four hours. After three doses the convulsions were less severe, and after six had been given the paroxysms came on with much longer intervals, milder and of shorter duration; so that by the time eight doses had been given they had entirely ceased and did not return, although the above was continued in half doses every six hours for the next twenty-four hours.

During this treatment the child was nourished with milk and barley water; although the feeding would induce convulsions, yet the child swallowed without difficulty. After the attack was overcome, for four or five days the child had not the power to nurse, so that Knapp's breast-pump was used and fed to the child until she was able to help herself.

It was, a week after birth, as well and healthy as any child of that age.

It may be as well to state that particular directions were given during the attack that the child should be laid on its side, and not on the back, in order to avoid pressure on the occiput.

Feeling that I had a fearful case to deal with, was compelled without delay to make use of desperate means (many would consider the dose too large for a new-born infant), before the little patient was exhausted or became comatose.

Had the poisonous effect of the drug exhibited itself by tremulousness and loss of power of the extremities, becoming limp and flaccid, indicating the approach of general paralysis, should have used chloral as an antidote.

This is the first case of the kind in which I have seen the calabar bean used, and hoping it may prove as useful to others as it was in this, has induced me to report it.

Plans for Reducing Obesity.

AMONG the complaints which are not maladies which the physician is at times called upon to treat, obesity is one which is frequent and troublesome. The remedies which have been suggested for it class themselves under three heads—

1. Diet. 2. Exercise. 3. Specific Medicines.

The diet plan is well known throughout the civilized world, by the pamphlet of Mr. Banting, of London, nearly one hundred thousand copies of which, if we recollect rightly, were published in the English language alone. The practical difficulties in carrying out his plan are that it cuts off the very articles most generally prized by fat people, and that it brings about in some constitutions a decided debility, and even certain forms of kidney disease. Nevertheless, we know several persons who have for years regulated their weight and prevented a natural tendency to lay on fat, with very little trouble, by a more or less rigid observance of Banting's rules.

Every one knows that sufficient exercise, hard, bodily labor, if you please, will certainly prevent obesity, and remove it when present. The first step in training for an athletic contest is to work off the fat, and there is never any difficulty about it in the hands of a skilled trainer with a willing pupil. But to many it is not at all a pleasant method, and to many more it is practically out of the question, because they have no time and no opportunity to take it up. We are, therefore, often driven to

SPECIFIC MEDICINES.

The question is, are there any? To begin, certainly natural mineral waters have quite a reputation this way. This may seem singular, as a favorite plan to reduce fat, with the older physicians, was, as near as possible, absolute avoidance of all liquids. Thus Ettmuller, writing in 1685, says: "*In obesis remedium infallibile est abstinentia a nemio potu*" (*Opera* I, p. 240). But these mineral waters, such as Marienbad, Montmirail, Andabre, etc., are more or less alkaline and laxative, and thus, it is believed, counteract the effect of the fluid itself. Best of all, probably, is sea water.

Not long since, in a number of the *Paris Medicale*, there were some remarks on the treatment of obesity by the administration of sea water combined with a residence at the seaside. Sea water taken internally, it is stated, acts as a diuretic and purgative, particularly the latter. A small glassful of it should be taken three times a day in a little fresh water or milk. Sea-water baths are also to be resorted to, free exercise should be practiced, and fattening articles of food strictly avoided. It is stated

that sea water used in this manner facilitates the oxygenation of the blood, and that it hastens the elimination of effete materials.

A sea weed, the *fucus vesiculosus*, has, of late years, been brought into notice as an attenuant. It contains iodine and bromine in small quantities, and was administered by Lænnec, in phthisis, as a tonic. In some parts of Ireland it is used to fatten pigs, and even in famine times the peasantry have prepared it for food. That it could have, therefore, any attenuant properties must be held doubtful, particularly as the recent experiments with it have led to very conflicting results. Stille, in the last edition of the *National Dispensatory*, dismisses it as quite obsolete for any such purpose. But Dr. Mulheron, of Detroit, thinks that much depends on the idiosyncrasy of the patient. According to him it is in the obesity of those of the lymphatic temperament that the beneficial effects of this drug are most marked. It has little or no influence in reducing the "fleshiness" of persons of active habits and of the sanguine temperament. In these, he adds, strict regulation of diet affords almost the only prospect of relief, but, owing to the keenness of the appetite which usually exists, this regulation can very rarely be enforced. The cases in whom *fucus vesiculosus* shows its most decided beneficial effects are women, in whom there exists usually some menstrual derangement, as menorrhagia and leucorrhœa, owing to an atonic and flabby condition of the uterine tissue. In such cases an improvement in these local derangements usually precedes the general reduction of fat and the improved tonicity of the general system.

Arsenic, in some cases, has been found effective by Dr. Whittaker, of Cincinnati. He thinks it may act in the reduction of fat, by simply increasing the absorption of oxygen gas, and thus securing its decomposition into carbonic acid gas and water after the usual way. For this remedy has long been administered empirically and with great efficacy in asthma and allied diseases, attended with a diminished inhalation or absorption of oxygen gas.

Alkalies, pre-eminently the *liquor potassæ*, in full doses, are unquestionably successful in diminishing the weight; but the quantities required to accomplish this effectively are nearly sure to bring about alkaline dyspepsia of an

intractable character, and a cachectic condition much more distressing than that of polysarcia.

Such are the alternatives before our fat friends. Perhaps the best advice we can give them is a judicious combination, in moderation, of all three of the agencies for reducing weight which we have enumerated. Taken together or in turn, one or all, will be sure to lessen weight.

The Therapeutics of Acute Rheumatism.

1. In the feeble, anæmic, nervous subject, he gives tinct. ferri chlorid, *mxxx.* every four hours; orders the joints to be kept at rest, wrapped in cotton if the patients desire it; and if they are very painful, small blisters (the size of a silver dollar) to be applied around them. An occasional laxative of Rochelle salt is added. The iron cuts short the disease, lessens the danger of cardiac complication, and also has the power, as Anstie pointed out, of preventing impending attacks. The blisters relieve pain, and bring about a more alkaline condition of the blood and urine. Thus treated, cases of this type rarely last more than two weeks, heart complication is infrequent, convalescence is rapid and relapses uncommon.

2. Fat and flabby subjects require the alkaline plan: Two drachms of potassium carbonate, $\frac{1}{2}$ drachm of citric acid and four ounces of water every four hours, until the urine ceases to be acid, when the amount is to be reduced one-half, the reduction being then continued daily until the fourth or fifth day, when, if the urine continue alkaline, quinia (six grs. every four hours), or preferably tinct. ferri should be added. If the attack is severe blisters are applicable. With this treatment, this class get well within two weeks.

3. Vigorous subjects, often with hereditary tendency. These cases are often promptly relieved by salicylic acid in scruple doses. Not less than \mathfrak{z} ij. should be administered in twenty-four hours, and considerably more may be required. It is more effective given in solution with an excess of alkali. A cure is thus not infrequently effected in three or four days, but some stomachs can not bear it, and if it depress the heart it must be stopped. If after three or four days it produce no improvement, it is useless to persist in it. In all forms the diet should be

liquid. Opium is objectionable by checking elimination; atropia promotes elimination, and is therefore preferred as an anodyne, being given hypodermically in the neighborhood of the affected joints, and it is rarely necessary to exceed gr. 1-80 a day.

Should cardiac complication arise, the carbonate of ammonia (gr. v. doses frequently), and infusion of digitalis, with hypodermic injection of morphia, should be given at once, to dissolve fibrin, check inflammation and lessen the work of the heart. When the acute symptoms have subsided, substitute iron and quinine for the ammonia and morphia. Experience also shows a blister on or near the præcordia to be useful.

In the sudden hyperpyrexia (fortunately very rare), where the temperature leaps without cause to 106°-109° F., the cold bath is necessary to ward off certain death.—*Prof. Bartholow in Medical News and Abstract.*

On Bronchitis.

BY G. HARRISON YOUNG, L. R. C. S. I., L. K. Q. C. P. I., ETC.

BRONCHITIS is a disease than which there is none more frequent or more important. Its importance depends as well on its frequency as on the serious morbid changes which may remain behind, and on the number of deaths which it causes, especially in young children and old persons. It is therefore essential that we should be acquainted with the disease in its every detail, and be prepared to treat it in all its varieties.

Bronchitis usually results from exposure to cold, but it may arise from other causes. Thus we have mechanical bronchitis, resulting from the irritation of the mucous membrane, due to the constant inhalation of air rendered impure by the presence of particles of dust, iron, etc. Again, we have secondary bronchitis, occurring in fevers, gout and Bright's disease, and depending on the vitiated state of the blood. Another important cause of bronchitis, and one which should always be borne in mind, is mitral regurgitation: in this case it is due to the constant state of congestion of the lungs. There are numerous classifications of bronchitis, but the most practical is into acute and chronic. Another important division is

that based on the part of the bronchial mucous membrane affected, namely, ordinary bronchitis, where the mucous membrane of the large bronchial tubes is implicated; and capillary, where the disease is confined to that of the small tubes. Of course both of these forms frequently coexist.

The symptoms of bronchitis are chilliness and coryza, followed by pyrexia. The temperature rises to 101° or 102° ; the skin becomes hot and dry, the pulse rapid and full, the tongue is furred, there is thirst and loss of appetite, the urine becomes diminished in quantity, high in color, and deposits lithates; the bowels are constipated; there is cough, at first frequent, preceded by an unpleasant sense of tickling in the throat; it sometimes comes on in paroxysms, and is especially troublesome at night. There is a feeling of post-sternal oppression, and of soreness and tenderness at the lower part of the sternum, caused by constant coughing. At the commencement of the attack the secretion of the mucous membrane is diminished; soon a clear, viscid, frothy mucus is expectorated. After some days the expectoration becomes thick, mucopurulent, and only partially aerated. The physical signs are quite distinctive in uncomplicated cases. Bronchitis is bilateral; percussion is normal. At the commencement of the attack sonorous bronchi are heard on auscultation over the larger tubes, while over the borders and apices of the lungs vesicular breathing is heard as usual. These morbid sounds are caused by the air entering tubes whose caliber is lessened by the swollen and dry state of the mucous membrane. When the bronchial secretion becomes profuse, large bubbling rales take the place of the dry sounds.

Capillary bronchitis, or suffocative catarrh, is a highly dangerous affection. It is much more fatal when it attacks, as it usually does, young children, or persons who are past middle age. The attack may be primary, or it may supervene on an ordinary case of bronchitis. The symptoms are very severe, and are generally quite characteristic. The attack is ushered in with the usual febrile symptoms; soon, however, urgent dyspnoea, with occasional paroxysms of orthopnoea, sets in; cough becomes violent and paroxysmal, expectoration is very difficult, owing to the very viscid nature of the sputa, the circulation through the lungs becomes greatly embar-

raised, the right side of the heart is engorged, the jugular veins are distended, the face assumes a dusky hue, and the lips are livid. If the case proceeds to a fatal termination the face becomes covered with cold sweat, the surface begins to cool, the pulse becomes weak and irregular, the expired air is cold. The patient becomes comatose, and in some cases dies convulsed from the action of carbonic acid on the brain. The physical signs are the same as in the former variety, except that in this case fine bubbling rales are heard instead of the large ones.

Chronic bronchitis usually follows the acute. In old persons, however, it comes on every winter, when it is known by the name of winter cough. It is this winter cough which is the great cause of emphysema; it should, therefore, be looked upon as a most serious affection, and should receive prompt and careful treatment. The symptoms and physical signs of chronic bronchitis are the same as in the acute. The diagnosis of uncomplicated bronchitis presents no difficulty. In some cases, however, where complications occur, it may not be easy to determine the exact nature of the disease. Thus, there may be dullness on percussion: this is due to the mucous membrane having lost its usual sensibility. The patient is, therefore, not aware of the necessity for coughing. The accumulated secretions gradually gravitate to the base of lungs and produce the dullness. This dullness has not infrequently been mistaken for pneumonia. It may, however, be readily recognised by the absence of the characteristic symptoms of pneumonia, such as the prolonged rigor, the rapid rise of temperature, the pungent burning skin, the great disturbance of pulse-respiration ratio, etc. On physical examination the dullness in bronchitis will be found to occupy the most dependent part of the lung, not, as in pneumonia, mapping out a lobe. The dullness will also change with change of posture, while vocal fremitus and resonance are diminished.

Chronic bronchitis with dilated bronchi may be mistaken for phthisis. Dilatation of a bronchus may be caused either by collapse of a lobule of the lung, the bronchus then dilating to fill the vacuum thus formed, or, from long continued and difficult cough, the bronchus giving way at some weakened point. These cases resemble phthisis in the following points: emaciation, sweating, debility, cough, expectoration. It may usually be diag-

nosed from phthisis by the fact that phthisis begins at the apex; dilatation generally takes place at the root of the lung, in the vicinity of the large bronchi. In phthisis there is hæmoptysis; in dilated bronchi this is absent. The sputa are fetid in dilated bronchi; they are not in phthisis. Attention to the above points, together with careful physical examination, will generally be sufficient to clear up the case. If not, the progress of the case will remove all doubt.

In speaking of the morbid anatomy it is necessary to know that bronchitis may prove fatal, and yet no marks of inflammation appear on the mucous membrane. This, however, can only occur when the smaller tubes alone are affected. It is due to the fact that the mucous membrane of the capillary tubes approaches in character a serous membrane, and serous inflammations frequently disappear after death. In ordinary cases the mucous membrane is covered with thick tenacious mucus. When this is removed the membrane underneath is found thickened, red and irregular. In some cases even slight ulceration of the mucous membrane may be seen.

Plastic bronchitis deserves mention here, as, though not often met with, it may be mistaken, when it does occur, for phthisis or pneumonia. Its symptoms are wasting, cough, hæmoptysis, and expectoration of plastic casts, called bronchical polypi, and dullness on percussion. It may be diagnosed from both phthisis and pneumonia by the fact that plastic casts of the bronchial tubes are expectorated, and on physical examination vocal fremitus and resonance are diminished instead of increased.

Syphilitic bronchitis is an affection deserving of careful consideration from the fact that it is liable to be mistaken for phthisis, and which, if not properly treated, will assuredly become phthisis. The symptoms resemble those of phthisis in the following points: There is great emaciation. In the syphilitic affection, however, the patient has a peculiar dull, cachectic appearance, which is very suggestive of syphilis. There are night sweats, but in this case the cutaneous exhalation is clammy, and has a heavy unpleasant smell. Hæmoptysis is a marked symptom, but the expectorated blood, instead of being of a bright arterial hue, is dark in color, and somewhat grumous. Diarrhea is a very troublesome and persistent symptom, which usually defies all ordinary treatment. There is dull-

ness on percussion, but, instead of being at the apex, as in phthisis, it occurs in scattered patches over both lungs, being due to gummatous deposits. Cough is not usually so troublesome a symptom as in phthisis. Expectoration is usually profuse, and the expectorated matter is fetid.

From the above we see that the following are the chief points of distinction between these affections:

1. In syphilitic bronchitis the sweat is clammy and unpleasant in odor; in phthisis it is not.

2. In syphilitic bronchitis the expectorated blood is dark and clotted; in phthisis it is bright in color.

3. In phthisis the dullness is apical, while in the bronchitis it occurs in scattered patches.

4. The expectoration is foetid in syphilitic bronchitis, it is not in phthisis.

5. In phthisis the patient is bright and hopeful, while in syphilitic bronchitis the expression is dull, heavy and depressed.

The morbid appearances distinctive of syphilitic bronchitis are the presence of gummata in the substance of the lungs. These growths are situated in the connective tissue between the air vesicles and bronchial tubes. They are surrounded by a layer of connective tissue which contains a number of blood vessels; inside this is a covering of fibrous tissue; the center of the tumor is filled with a dirty yellowish-grey substance, which after a time undergoes caseation.

It is now necessary to consider shortly the most important sequelæ of bronchitis. Of these, that which first claims attention is phthisis. Frequently repeated attacks of bronchitis may produce phthisis in subjects in whom not the slightest hereditary tendency exists. If such is the case how much more likely is phthisis to result in persons who are already predisposed to the affection. In patients who are phthisical bronchitis works the greatest havoc, so that in these cases it is of the greatest importance to treat the slightest attack at once, and continue the treatment until the disease is thoroughly cured.

Another very important sequela of bronchitis is emphysema. It most frequently occurs in old persons who have suffered for some time from winter cough; yet no age is exempt from it, and it may even be met with in young children where strong family predisposition to fibroid degeneration exists.

Emphysema may be caused either by collapse of a lobule of the lung, when the surrounding vesicular portion becomes emphysematous to fill the space formerly occupied by the collapsed lobule. This, however, is of comparatively little importance. Or the whole or greater part of the lungs may become affected. In these cases it is caused by frequent cough, especially where any obstruction exists to the free expiration of the air. When such is the case the air is forced into the air vesicles, which distend and burst. After a time the lungs permanently lose their elasticity. When this takes place a disease becomes established, which causes the greatest possible inconvenience to the patient, and which exerts a most detrimental influence on his general health.

In the treatment of bronchitis the indiscriminate use of expectorant medicines frequently does much harm. Thus I have several times seen cases where the mucous membrane was dry, inflamed and irritable, yet in these cases turpentine was ordered, which, being a powerful styptic, as we know, could only aggravate matters. Yet, if the prescribers are asked why they use turpentine in these cases, their invariable answer is, "Because it is an expectorant!" Such treatment is manifestly incorrect and unscientific, for expectorants have their special modes of action as well as any other class of medicines. If we consider these special modes of action we find that tartar emetic and ipecacuanha increase the secretion from the mucous membrane. Alkalies, especially ammonia, increase the amount of, and at the same time liquefy the mucus, thus assisting its expectoration. Blue pill increases the secretion, and also acts as a powerful alterative. It is very useful when combined with ipecacuanha.

The medicines which facilitate expectoration are carbonate of ammonia, senega, squill and stimulants. Turpentine diminishes the secretion, but, from its stimulant action, it also assists expectoration. It is therefore specially indicated in debilitated patients in whom there is profuse expectoration.

Opium, morphia and hydrocyanic acid relieve cough, but they should only be given where they are really necessary, as they diminish the secretions.

When a person is seen suffering from the premonitory symptoms of bronchitis, the attack may sometimes be cut short by a hot mustard bath and ten grains of Dover's

powder at bedtime. I have often seen this treatment successful in what threatened to be a very severe attack of bronchitis. If, however, this does not succeed in checking the disease, the patient should be confined to the house, or, if the attack is bad, to bed. The temperature of the room should be kept at about 65 deg.; it should be well ventilated, but the patient must be carefully preserved from all draughts. The action of the skin should be promoted either by vapor or camphor baths.* If the bowels are irregular 5 gr. of calomel, followed, if necessary, by a dose of castor oil in the morning, acts better than any other aperient. In bronchitis, occurring in strong adults, I prefer tartar emetic, in one-sixth gr. doses, to any other remedy. It frees both the bronchial and cutaneous secretions, and lessens the inflammation. It may very advantageously be combined with spt. ammon. arom. Tincture of aconite in 2 m. doses every hour is very useful, especially in phthisical persons, where the great object is to overcome the inflammation in the shortest time possible. It should, however, be used with caution. Leeches to the chest and dry cupping afford great relief. Linseed meal and mustard poultices should be kept frequently applied.

In capillary bronchitis tartar emetic may be given for the first day or two, but if there are any signs of depression it should be omitted. Afterwards spirits of turpentine, with ammonia and ether, are the most useful remedies. Ether is here very valuable, as, besides being a diffusible stimulant, it overcomes any spasm of the muscular tissue of the bronchial tubes which may exist. If the kidneys are not acting properly spirits of juniper may be given with great advantage. Stimulants are generally required, and the diet should be nutritious and easily digested. Turpentine stupes and linseed and mustard poultices should be kept constantly applied. In those cases where the bronchial tubes become blocked up with mucus, an emetic will bring this away, and afford great relief. When the acute symptoms are passing off iodide

*To give a camphor bath the patient is undressed and placed on a cane-bottomed chair, being then surrounded by a cloak. About one drachm of camphor is placed in a crucible and burned under the chair. After remaining for a few minutes in the vapor the patient is removed to bed. In a short time a gentle perspiration sets in, which is most beneficial. The bath may be repeated every second day.

of potassium and carbonate of ammonia internally, with flying blisters about the sternum, afford the best results.

In chronic bronchitis it is of great importance to improve the general health. The diet must be carefully regulated. Stimulants are needed in most cases, and a general tonic plan of treatment should be adopted. The condition of the bowels should be inquired into, and if necessary corrected. If the heart is affected tincture of digitalis should be given. Where there is bronchorrhœa, turpentine, chloride of ammonium, and the balsams, together with inhalations of turpentine, creosote, or iodine, are most effectual in relieving excessive secretion. If there are fetid sputa, carbolic acid inhalation will usually correct this unpleasant symptom. When the healthy action of the mucous membrane is becoming re-established arsenic is very beneficial. It increases the appetite, improves the state of the blood, and restores the tone of the pulmonary tissues. If there is anæmia tincture of the perchloride of iron may be combined with the arsenic. If this is done the bowels should be kept regularly acting, or the iron will have little effect. Iodide of ammonium and sulphur are most useful in gouty bronchitis.

Persons who suffer from winter cough should, if possible, reside during that season in some mild climate. If this can not be they should be kept constantly under observation, and the slightest pulmonary symptoms should receive attention and treatment.

In syphilitic bronchitis mercury should on no account be given, or the case will become one of phthisis. Iodide of potassium and iodide of iron, with decoction of cinchona, will generally greatly relieve the symptoms. Cod-liver oil, with good diet, will assist in restoring the patient.—*Dublin Medical Press.*

Clinical Lecture, with Remarks, Upon a Case of Typhoid Fever and the So-called Specific Treatment.

BY PROFESSOR ROBERTS BARTHOLOW, M.D.

Gentlemen.:—The first patient brought in this morning will be the case of ambulant typhoid which was presented to you a week ago. As I told you then, such cases are

rather rare. When we saw him at that time, it was the case of a man going about suffering from inflammation and ulceration of the glandular patches in the small intestine near its termination, which are the characteristic lesions of typhoid. The risk is so great in these ambulant cases that we could not allow the patient to continue going about; perforation and peritonitis would be liable to occur, and a fatal issue would naturally result. He was put to bed, and since then he has exhibited the characteristic fever of a remittent type, which we recognize as typhoid fever. The fever of typhoid is said to be of the continued type, but it is so only relatively, not absolutely. In health, as you know, there is a daily fluctuation in the bodily temperature, which attains its maximum in the early evening and its minimum in the early morning hours. The fever of typhoid shows the same variations—an evening exacerbation and morning remission. During the first week of the fever the morning decline is exceeded by the evening rise until the maximum is attained in the second week, toward the end of which we observe the morning remissions becoming more marked, until the temperature returns to the normal in the fourth week.

Upon the day of admission this man's temperature was 104° F. in the evening. You remember I told you that if the temperature did not go above 102° F. we would not interfere, but if it rose above this point we would rely upon a full dose of quinine for an antipyretic action. The resident physician very properly gave him twenty grains that evening with decided effect. Now, the excursions of the temperature record are less—as it is the third week—preparatory to convalescence, which is nearly at hand. He has only two evacuations per diem; his tongue is cleaning, although still raw and glazed, and the hebetude is passing away. You must be struck with the improved expression and intelligent appearance of his countenance, and you notice that his mental condition is brighter than at the beginning.

There was a plentiful crop of the peculiar rose-colored erythematous eruption of typhoid. It is now disappearing, but still can be recognized. The distention of the abdomen and gurgling in the right iliac region are also less. Notwithstanding the diminution of the gurgling there is still some tenderness, and our patient is not yet

free from danger. Notwithstanding the fact that it was a mild case, there may ensue a perforation of the intestine with serious results; we shall therefore still carefully attend to his diet, and keep him strictly in bed. While these ulcers of the intestine are only partially healed, if he were careless and ate indigestible food, a sudden development of flatus might distend the bowel, and cause a rupture and fatal collapse or peritonitis. This accident may occur both in light and in grave cases of typhoid fever, but it is a remarkable fact that perforation is more liable to take place in the ambulant cases than in the severer forms, and may be produced by a single apparently insignificant ulcer in the intestine. We should therefore always insist upon these precautions as to rest and diet in each individual instance of typhoid fever, although it may not be a very marked case of the disease.

In regard to the treatment, I have told you that when the temperature rose we gave him a full dose of quinine with the desired antipyretic effect. He has had the so-called specific treatment of Lugol's solution, five drops three times a day, well diluted. Upon this he has done very well. I pointed out, in the previous discussion of the case, that there were two main points in the mode of treatment, termed by the Germans the specific treatment for typhoid fever: calomel given early in the disease in ten-grain doses for three or four days during the first week of the disease; and the administration of iodine, either in the form of tincture or Lugol's solution. The latter form is preferable, and it is that which this patient has been taking.

From experience in other cases I consider the above method certainly an advance in the treatment of typhoid fever. It is not termed specific on account of any supposed influence it has directly upon the typhoid fever, but from the power of the iodine to destroy the germs of the disease in the discharges of the intestinal canal, on account of its well-known antiseptic properties. The propagation of typhoid is due to a peculiar *materies morbi*, which is supposed to be in the alvine discharges, and which subsequently finds its way into our bodies with our food or drink, or even through the inspired air, and there reproduces the disease. The mode of action of iodine upon these ferments has led to the supposition

that it would be a useful agent in the treatment of typhoid, and experience has confirmed this view.

POSTERIOR SPINAL SCLEROSIS.

As this man walks into the arena, notice his peculiar method of locomotion. Observe his gait, the manner he has of swinging his foot around, describing a semi-circle, bringing his heel down with considerable force; he treads with weight, making some noise in walking. This affection gives a man rather an imposing gait, unless the difficulty is very far advanced.

Now, from the inspection of the man's gait, who will make a diagnosis of the case?

Let us note his history. The disease has existed for a long period, at least five years, and it was preceded and subsequently accompanied by acute neuralgic pains in the lower extremities, which he describes quite correctly as "lightning pains shooting down the legs." He also complains of a feeling of pressure or stiffness in the muscles of the calf; he has not noticed the sensation of a constriction tightly around his limbs, like a cuirass closely binding them, as is sometimes experienced in these cases. He has decided disturbances of sensibility in the lower extremities, especially a marked degree of numbness. To determine the physical condition of the parts, we will now have the limbs stripped, and apply certain tests to ascertain whether we shall obtain the normal reactions or not. We shall follow certain methods to determine accurately the condition of the muscular and other parts of the limb, and, indirectly, the general nervous system, to see if it shares in the affection. What are these methods? In the first place, we test the power of motion; interrogating the muscles to see if their mobility is impaired, and if so in what respect. This point we shall now ascertain. You have noticed that in walking he moves the limbs abnormally, and we ask, Is this because they are weak, or is it simply disordered motion?

As he lies on his back, now, he kicks with vigor, although the movements are badly directed. As I now grasp his leg, with the knee partially flexed, I find that he uses considerable power in attempting to extend the limb; there is no muscular paralysis. The trouble in walking is, therefore, not due to want of muscular power, but to want of co-ordination in the muscles, which makes

his movements appear awkward. This loss of co-ordination is observed even when he directs his attention to his efforts, but when his attention is called off, or his eyes are shut, the condition becomes more marked; therefore we say that both voluntary and automatic co-ordination are disordered. I have pointed out to you that the mechanism in walking is partly automatic and partly volitional. In ordinary walking we are not conscious of any effort in using the muscles, but our attention is free for other objects, while the muscles regularly and rhythmically perform their functions, deriving their innervation from the spinal cord; these movements are automatic. If I should take up a pen to write, and there happened to be want of co-ordination of the muscles, I would be unable to write intelligibly; the voluntary action would be affected, while the brain (apart from the special cortical center for written language) would be intact. Applying our test to the patient, we find that if we talk to him while he walks he can not walk well, but staggers; but when he directs his attention to the effort he is making he can walk better.

In order to walk with success, it is essential that sensibility should be unaffected, so that we can feel the resistance of the ground, or the surface we walk upon; we must be conscious of the feet pressing upon the ground. If this is imperfect, our movements are disordered. Therefore it is that plantar anæsthesia plays a large and important part in the troubles under discussion. We find that ordinary tactile sensibility, sensibility to heat and cold, and perception of pain—which are entirely distinct properties of sensory nerves—are not always equally affected. Let us first try the sense of touch, for which we use the æsthesiometer, a pair of compasses with sharp points. At the same time that we ascertain the accuracy of his tactile impressions, we will also learn the rate at which impressions are transmitted to the cerebral centers. You know that even in health we do not perceive peripheral impressions immediately; it is only apparently so, although we think we recognize them at once. In this case, asking him to tell us when I touch his foot with the point of the compasses, you notice that the transmission of impressions is delayed; they take a longer time than in health to reach the brain. There is a perceptible interval between touching the surface and his perceiving it; we

may say, therefore, that the transmission of tactile impressions from the surface to the center is retarded. Now try his ability to distinguish heat from cold. Applying in succession hot and cold sponges, we find that he faithfully interprets temperature, as he is correct in his replies; he can distinguish heat from cold. Testing his appreciation of pain by pricking him with the points of the æsthesiometer, we learn that there is actually less numbness in the plantar surface than in the legs, although the perception of pain is sensibly impaired in both regions.

With the æsthesiometer two points are felt as one, one and one-half inches apart on the dorsum of foot; on the leg they are felt as one at two inches; so that the tactile sense is impaired, but not abolished. Sensibility to touch, pain, temperature, we may, therefore, say is present, but is impaired.

This examination changes to some extent my opinion of the locality of the lesion in the spinal cord. I was disposed at first to locate the disease in the antero-lateral region, but as the disorder is mainly that of co-ordination the lesion must be located farther back, and mainly in the posterior columns.

His difficulty in walking is not so much due to the want of sensibility in the plantar surface, which at first suggested itself as the explanation, as to the marked want of co-ordination in the muscles concerned.

The electrical examination is necessary to complete our study of the case. You see the muscles respond perfectly to the faradic current, and contract energetically to a moderate current.

In the early stage of posterior spinal sclerosis, you remember that the disorder, as a rule, manifests itself first in the lower extremities, and afterward extends to the arms in the second stage, or, in the opinion of some writers, in the third stage. Our patient has no trouble in his upper extremities; he can use his knife and fork in eating, and button his clothes without difficulty. We infer that the disease is in its first stage, and has not involved the upper part of the spinal cord. What confirms our opinion as to the diagnosis and the localization of the affection in the lower part of the cord is the fact that the sexual functions are recently impaired; he has not had an erection for some time, and lately has had some noc-

turnal seminal losses. This sexual impairment generally belongs to the early symptoms, and usually precedes, rather than follows, disturbances of motility.

The disease is therefore still limited to the lower part of the spinal cord, and as the power of co-ordination resides in the posterior part of the structure we conclude that it involves mainly the posterior columns, making it a case of posterior spinal sclerosis, which now explains fully the attacks of fulminant pains that have so long annoyed him.

In considering the question of treatment, we find a general agreement of opinion among authorities that, as regards therapeutics, the condition is not encouraging. No one will dispute this who has had anything to do with the disease. The best results obtainable—palliation of symptoms and the arrest of the disease—are perhaps secured more satisfactorily with phosphorus than anything else. It should be given for a long time and in small doses (about one hundredth of a grain), for which cod-liver oil is a good vehicle. Some curative results have been obtained by this treatment. In order to maintain the nutrition of the parts affected, a weak continued current should be applied from the spine to the lower extremities; although this will have no effect upon the disease, it will materially relieve the pain. He shall therefore have the constant current daily, in conjunction with the internal administration of phosphorus dissolved in cod-liver oil, of which he should take a teaspoonful, containing one hundredth of a grain of phosphorus, three times daily, after meals.

How to Cure Fits of Sneezing.

DURING the recent rapid changes of temperature I caught severe cold in my head, accompanied by almost incessant sneezing. My unfortunate nose gave me no rest. The slightest impact with cold air, or passing from the outside air into a warm room, equally brought on a fit of sneezing. In vain I snuffed camphor and pulsatilla—the light catarrh still triumphed over me. At length I resolved to see what the maintenance of an uniform temperature would do toward diminishing the irritability of

my Schneiderian membrane, and accordingly I plugged my nostrils with cotton wool. The effect was instantaneous. I sneezed no more. Again and again I tested the efficacy of this simple remedy, always with the same result—however near I was to a sneeze, the introduction of the pledgets stopped it *sur le champ*. Nor was there any inconvenience from their presence, making them sufficiently firm not to tickle, and yet leaving them sufficiently loose to easily breathe through. This is really worth knowing; for incessant sneezing is among the greater of smaller ills, and it seems only a rational conclusion to hope that in this simple plan we may have the most efficient remedy against one of the most distressing symptoms of hay-fever.—*S. Messenger Bradley, in British Med. Jour.*

MICROSCOPY.

Postal Microscopical Society.

WE take the following from the *Lancet*, of London, February 7:

"To the Editor of the Lancet :

"SIR—Thanks to your insertion of letters on the subject. The effort made by the Postal Microscopical Society to establish a separate histo-pathological section has been most successful, and a number of boxes have been placed in circulation. Most of its slides have been of a very high order—some sent by a professional mounter, and others the work of amateurs (medical men)—and are triumphs of section-cutting, injecting, staining, etc.; and, being accompanied by accounts of the cases from which they were taken, are thus made exceedingly instructive. It is a great pity that slides, illustrating rare forms of disease, or original investigations into the causes of morbid action, should be seen by the comparatively small number of medical men who attend the meetings of Societies; and it will be a great boon to the profession generally, if those who have such slides to exhibit would place them at the disposal of this Society, that they may be seen by any of us who are interested in microscopy. The boxes have been gradually improved, so that it is almost impossible for the properly mounted slides to be injured in transit.

"The annual subscription is very small; namely, fifty cents. Any information about the Society will be gladly given by the honorable Secretary, Mr. Alfred Allen, Cambridge place, Bath; or by

"Yours truly,

"C. P. COOMBS, M. D.

"LONDON, CASTLE CARY, *Jan.* 30, 1880."

Employment of Wet Collodion for Microscopic Sections.

M. MATHIAS DUVAL points out the difficulty of finding any body which would firmly hold delicate objects, in which there are a large amount of hollows and cavities, such, for example, as embryonic tissues; it is obvious that the best substance would be one, which, though solid, is not friable, and which at the same time is homogeneous; these conditions are not satisfied by the ordinary imbedding mixtures, such as gelatine, wax and oil, or soapy bodies; one that has been largely used is gum solidified by the action of alcohol, and this has been recommended by Dr. Klein; in the directions appended to their "Treatise on Embryology" (of the Chick), Foster and Balfour expressly state that they do not recommend it for the study with which they are there particularly engaged, nor does the experience of other embryologists seem to do otherwise than confirm their opinion. Nor, again, do the methods ordinarily in use allow of the advantages which would be gained by the use of a transparent imbedding substance.

Already used in its *dry* state for certain observations, collodion has been found to have much to recommend it, but it is too hard for delicate bodies; when, however, a small quantity is treated with alcohol at 36° , it is found to retain its volume, while presenting a large amount of transparency. Having used the substance for six months, M. Duval now feels justified in recommending it to the attention of students; the embryos to be examined are first hardened by osmic acid, alcohol, or some other method, are stained with carmine, and then placed in alcohol; they are placed for a few minutes in ether, and are then removed to the liquid collodion, in which they remain for a period varying from ten minutes to twenty-four hours. When withdrawn from this, they have attached to them a piece of elder-pith, or are, if their size and state permit

of their being cut without any such aid, thrown at once into alcohol; the body now becomes surrounded with an elastic mass of collodion, which solidifies without alteration of volume, and encloses the pith if this has been already added. Thus treated, the tissue is ready for immediate section, or may be kept in alcohol for an indefinite period without danger.

As the sections are made in the ordinary way, that is, the body itself and the razor being both wetted with alcohol, it is obvious that the collodion will be prevented from becoming dry; there is no need to remove the imbedding substance, and the section may be immediately placed on a slide; a drop of glycerine and a cover-glass are then all that is necessary for the observer to find himself delighted with an object, the optical properties of whose imbedding substance are exactly the same as those of glass. Another advantage remains to be noted: the collodion has not in M. Duval's sections lost its transparency after a period of six months.

A similar method may be used for fetal cerebral structures, and in the study of the eye or of the cochlea and similar delicate parts.—*Jour. Royal Mic. Soc.*

A Simple and Cheap Camera Lucida.

MR. T. B. JENNINGS sends to the *American Journal of Microscopy*, a description of a very simple camera; which answers all the purposes of the microscopist. It is made as follows: Take a flat cork and cut a hole through its center large enough to fit over the eye-piece. Just below the hole make an incision, so that it will hold a thin glass cover at an angle of 45° . We have been using for several years, with satisfactory results, a camera made on the same principle, consisting of a little wooden box about one inch square, with a hole cut in one end large enough to fit on the eye-piece; through the center of the top and bottom a hole half-inch in diameter is cut; a little groove is cut on the inner surface of the two sides, from the opposite corners of the box, in which is slipped a thin piece of clean mica, which will be at an angle of 45° . Place the microscope in a horizontal position and look through the hole in the top of the box.—*Medical Herald.*

GLEANINGS.

CHLORIDE OF BARIUM IN THE TREATMENT OF INTERNAL ANEURISM.—A case of abdominal aneurism successfully treated by chloride of barium is reported by F. Flint, M. D. The patient, a married lady, aged sixty-five, was first seen in February, 1878, and the diagnosis was confirmed by several professional gentlemen, including Mr. J. W. Teale. For five months Tufnell's treatment was tried, and rigidly carried out, without producing the slightest improvement. Chloride of barium was then selected as a probably useful remedy, and given in doses of one-fifth of a grain three times a day; after three or four weeks the dose was increased to two-fifths of a grain, and maintained at this point during the remainder of its administration, with the exception of a very short trial of three-quarters of a grain. Within a fortnight after the use of the chloride was begun there was a marked diminution of throbbing, which was both subjectively and objectively evident; after nearly five months' continued use of the drug, the tumor was so reduced that it could scarcely be felt, and only a faint systolic murmur could be heard. Four or five months after the discontinuance of the drug, there was still a slight systolic murmur, but no throbbing; the pulse was about seventy-two, and it had entirely lost its unnatural tension.

Mr. J. W. Teale has recently seen the case again, and expressed himself highly gratified with the change in the patient's state—so that testimony can be borne by an independent trustworthy practitioner to the accuracy of the diagnosis and the reliability of the improvement.

In large doses, two drachms and upward, chloride of barium paralyzes the heart and great blood-vessels; in doses of about a grain it is a stimulant; the dose selected was less than the stimulating dose, and Dr. Flint thinks he might have done better by adhering to the first amount given (gr. $\frac{1}{5}$), instead of increasing it. The drug appears to have a decided affinity for the muscular coat of the arterial system, and it probably restored tone to the diseased portion of the arterial coat, and thus gave rise to consolidation of the weakened wall. In the case in question the aneurism appeared to be fusiform rather than sacculated, and therefore deposition of fibrin could not

very readily take place. Perfect rest is essential to any medical treatment, and it would be well to try Tufnell's diet alone at first, and afterward to adhere to it as far as possible during the use of the drug.—*The Practitioner*.

THE INFLUENCE OF DIFFERENT POSITIONS OF THE BODY ON ITS TEMPERATURE.—This subject has been lately studied by Dr. Sassezky (*Petersburg, Med. Woch.*). His method of experimenting consisted in placing the patient upon his back, first with the arms folded on the trunk, and then with the same extended, the temperature being simultaneously measured in the ear, mouth, axilla, rectum, fists, and between the first and second toes. The pulse and respirations were noted at the same time. In other experiments the legs were raised instead of the arms, the patient lying on his back as before. The general conclusion arrived at was that elevation of the extremities, and especially of the legs, raises the temperature of the whole body, *except that of the part elevated*, some fraction of a degree, or even one or more degrees, centigrade. The effect is more marked in sick people than in the healthy. The pulse and respirations are accelerated in both by raising the limbs. The greatest rise of temperature is observed in the axilla and rectum. The effect of posture is most decidedly seen in typhoid patients, especially in cases where the fever has been severe and the nutrition of the heart is much impaired. Patients with true heart disease come next; then those with phthisis. The explanation of these facts appears to be a simple one. The flow of warm blood to the elevated limb is diminished, and that to the other parts of the body increased; and the weaker the condition of the heart, the more decided do the differences of temperature between the two regions become.—*Med. Times and Gazette*.

DIRT AND BODILY HEAT.—The part which the skin plays in the regulation of bodily heat is not adequately estimated. The envelope of complicated structure and vital function which covers the body, and which nature has destined to perform a large share of the labor of health-preserving, is practically thrown out of use by our habit of loading it with clothes. It is needless to complicate matters by allowing it to be choked and encumbered with dirt. If the skin of an animal be coated with an imper-

vious varnish, death must ensue. A covering of dirt is only less inimical to life. We are not now speaking of dirt such as offends the sense of decency, but of those accumulations of exuded matter with which the skin must become loaded if it is habitually covered and not thoroughly cleansed. The cold bath is *not* a cleansing agent. A man may bathe daily, and use his bath-towel even roughly, but remains as dirty to all practical intents as though he eschewed cleanliness; indeed, the physical evil of dirt is more likely to ensue, because, if wholly neglected, the skin would cast off its excrementitious matter by periodic perspirations with desquamation of the cuticle. Nothing but a frequent washing in water of, at least, equal temperature with the skin and soap can insure a free and healthy surface. The feet require especial care, and it is too much the practice to neglect them. The omission of daily washings with soap, and the wearing of foot-coverings so tight as to compress the blood-vessels and retard the circulation of the blood through the extremities, are the most common causes of cold feet. The remedy is obvious: dress loosely and wash frequently.—*Lancet*.

BLACK TONGUE, OR NIGRITIES.—Dr. Hirtz (*Gaz. Med. de Strasbourg; Journal des Sci. Med.*, 1879, page 582) had occasion to examine a child of six, whose tongue was absolutely black. No other morbid condition existed, excepting a slight gastric disturbance. Washes of every sort were used without effect, but the discoloration of the tongue lasted for six weeks. In another case the parents were sure the child had spilled ink upon its tongue, but the same persistence was observed until lotions of corrosive sublimate were used, which quickly removed the condition. An examination of the literature of this curious affection shows that so far back as 1855 Mr. Bertrand had described it; but it was reserved for M. Gubler (*Dict. Encyclopedique*) to suggest, and for M. Maurice Raynaud (*L'Union Med.*, July 1 and 3, 1869) to prove the existence of a parasite resembling that of ring-worm. Fereol, however, a little later, attempted to show that the parasitic growth was an epiphenomenon, and that the essential disease was a papilliform epithelial hypertrophy. But more recent investigations by Lanceraux and Dessois (1878) appear to prove conclusively the presence of vegetable spores; and the treatment which has proved successful,

namely, scraping and washing with lotions of corrosive sublimate (gr. i to ʒi). seems to point also to a vegetable parasitic origin of the affection.

OBSERVATIONS ON THE DIGESTION OF MILK.—Under this heading, Dr. E. F. Brush (*New York Medical Journal*, 1879, page 300) gives the result of some experiments which he has made in the digestion of milk and kumyss. Cows' milk, he says, is not so digestible as the milk of mares, etc., because the cow is a cud-chewing animal. In kumyss the caseine is, so to speak, practically regurgitated and chewed; *i. e.*, having been coagulated, it is resubdivided, and incapable of being coagulated under any acid or ferment. An advantage of kumyss in the artificial feeding of children is that the sugar of the milk has been changed into alcohol instead of lactic acid; alcohol, when properly presented, being in reality a hydrocarbonaceous food. Dr. Brush subsisted for a number of days on kumyss exclusively, taking eight bottles a day. During this time his urine, carefully examined, contained no alcohol. Afterward, distilling some kumyss, he drank the distillate, and later discovered alcohol in his urine. This goes to show that alcohol, as contained in kumyss, is destroyed in the system, but the same alcohol, when it has undergone the process of distillation, is eliminated as alcohol.

INFUSION OF THE STEM OF THE SUNFLOWER AS A REMEDY IN INTERMITTENT FEVER.—P. Filatow, of Ssaransk (Government: Pensa; Russia) has for three years frequently used an infusion of the sunflower (*Helianthus annuus* L.) in intermittent fever, and has, in the majority of cases, obtained as good results as could have been obtained from quinine. The infusion is prepared by cutting the stem of the sunflower (fresh or dry) into small pieces, and macerating it for three or four days with common cognac, when it acquires the color of sherry, and the distinctive taste of the drug. The dose for adults is a tablespoonful three times a day, and it may be administered before or during the paroxysm. In recent cases recovery took place already after one to three days; in more chronic cases, the medicine had to be given for one week, and occasionally even longer. Only a few cases resisted the remedy entirely, and quinine had to be resorted to; but in several instances even the latter failed to effect a cure.

AMPUTATION AT THE HIP-JOINT; ILIAC ARTERIES COMPRESSED BY LEVER.—At a recent meeting of the Clinical Society of London (*Lancet*, April 26, 1879), Mr. A. Pearce Gould read notes of a case of amputation at the hip-joint, in which the iliac arteries were compressed by Davy's lever. The patient, a man aged twenty-eight, was admitted into Westminster Hospital with advanced disease of the hip. Excision of the head of the femur, which was separated from the neck, was performed, but it became necessary to remove the limb. Mr. Gould did this by prolonging his excision wound downwards a short distance, and then severing the thigh circularly—an oval amputation in fact. He claimed for this method that it considerably lessened the extent of the cut surface, and the uninjured inner part of the thigh was very useful in supporting the posterior flap, and in aiding the nutrition of the flaps. He recommended it especially in cases of amputation following excision. The iliac vessels were controlled by Davy's lever passed into the rectum. There was no flow of blood during the amputation, only that lying in the severed vessels escaping. At the end of the operation the blood in the tray, mixed with serum and sawdust, measured less than three ounces. In comparing Davy's lever with Pancoast's tourniquet, which is usually employed, Mr. Gould held that it had the following advantages; 1. It disturbed the circulation less; 2. It did not interfere with the respiratory movements, nor was it interfered with by them; 3. Its use was not prevented by obesity, rigidity of the abdominal walls, or the existence of abdominal tumors; 4. The pressure required was less; 5. Less liability to injury of viscera and peritoneum; 6. Greater ease and security in application; 7. Greater cheapness and durability; 8. If the lever were not at hand, its place could be more easily supplied. The lever was first suggested and used by Mr. R. Davy, in a young child, in January, 1877; then by Mr. Gould, in December, 1878, and since then by Mr. H. Marsh, Mr. Armstrong, Mr. Davy, and Mr. Cadge, and in every case successful.—*Am. Jour. Medical Sciences.*

A REMARKABLE CAUSE OF EPISTAXIS.—The *British Medical Journal* says: Singular cases occur in medical practice in which the most experienced physicians will find their knowledge and experience fail to furnish the elements of diagnosis. A remarkable example of a case of this kind

is related in the *Journal für Oeffentliche Gesundheitspflege*, by Dr. Landon, of Elbing. He has been treating for some years a workman suffering from liver complaint, which sometimes improved, but from which his patient had never completely recovered. The patient was from time to time attacked with severe bleeding at the nose, producing great weakness. The bleedings lasted, from time to time, for seven years. At first they were slight, and then they became more severe, and, later on, generally occurred twice a day. Injections of iced water and other means were employed, which gave temporary relief only. At the same time, the patient complained of a sense of pressure in the upper part of the nostril. Suddenly, one day, after a hard sneezing, there escaped from the left nostril what resembled, on superficial examination, a small round worm, which was full of active movement. It was put into water and left for a long time. After the expulsion of the worm the patient improved considerably, the bleeding altogether ceased, and gradually he assumed a healthy aspect. The worm was identified as a young form of the so-called *pentastoma tænioides*. This is an entozoon, which in its states of development inhabits the rectal and nasal apertures of the dog, the wolf, the fox, occasionally the horse, and rarely of man. The early forms live encapsuled in the abdominal and thorastic cavities of the herbivorous animals, especially in the liver, where they give rise to considerable destructive changes. After some time, they escape from the capsule, wander about in the body, and again become encapsuled, and, when the encapsuled creature does not die, new ones are produced. When they are hidden in the flesh of the animal in which they live, they find a home in their host, and lie quiet for a time until they are expelled with the nasal mucus. It is not improbable that, from the frequent taste in Germany for uncooked or imperfectly cooked food, these entozoa enter the human system in the living state; and it would appear in this patient that the previous liver affection might be due to the entrance into the liver of the pentastoma in its embryo state, and that it subsequently passed off as the creature became encapsuled.

TRANSPLANTATION OF A DOG'S CORNEA TO THE HUMAN EYE.
—M. Schoeler relates (*La Revue Medicale*) the case of a

man, aged twenty, one of whose eyes was atrophied, while the other had just lost the entire cornea through its prolonged ulceration. The iris, covered with granulations, was laid entirely bare, the lens had dropped out. The patient had merely luminous sensations. M. Schoeler operated by cutting a large, upper conjunctival flap, capable of covering the whole extent of the cornea; then below, a small flap intended to be united by points of suture to the upper flap that was turned down, the epithelial surface of both flaps being turned back against the surface of the globe. By means of a trephine he removed from the eye of a chloroformed dog a circular portion of the cornea, about nine and a half millimeters in diameter. This cornea being applied to the vacant space in the human eye, he brought down in front of it the large conjunctival flap, which he united by catgut sutures to the small flap. The transplanted cornea was thus held in position and protected by the conjunctival flaps. At the end of three days the sutures fell out, the conjunctival flap was adhering to the transplanted cornea, and the latter to the margin of the sclerotic. There was an anterior chamber visible where the conjunctiva was deficient. But on the following days the cornea gave trouble, and finally became of a milky tint, an ulcer appeared. By degrees vessels found their way into the periphery of the cornea and reached its center. After the sixth week the conjunctival flap was detached. Eight days afterward the cornea was flat, very opaque in the center, but translucent at the periphery so as to let the iris be seen. The vision is, however, very slight; the movement of the hand can be distinguished at a distance of half a foot from the eye.—*Dublin Medical Journal*.

NECROSIS WITHOUT SUPPURATION.—William Colles, M.D., in the *Dublin Journal of Medical Sciences* for December, 1878, reports the following case:

"F., aged 15, healthy, was thrown from a carriage and received some bruises on the face; also there was a slight transverse wound, about one-fourth of an inch, at the ulnar side of the left wrist close to the joint. Through this opening projected a small piece of very rough bone, which was considered to be the lower end of the ulna broken off and projecting. It could not be restored or retained in position. Two days later she was put under

the influence of chloroform, but it was still found impossible to restore the natural form of the limb. It was therefore determined to remove the projecting piece. With this view the piece was caught in a forceps, and a director passed behind it. It was found that the latter instrument could be easily passed for a considerable distance in all directions without obstruction from ligamentous or other attachments. On bending the hand backward, and pressing the director inward, there slipped out a portion of bone two inches long. On examining the forearm, the bones seemed quite naturally in their position, but perhaps slightly larger than those of the opposite limb. On examining the bone extruded, it was much smaller than would be expected in a person of her age; it was quite devoid of periosteum; no cartilage or epiphysary end, but a small, rough deposit of new bone; the upper end irregular, jagged, but in no part did it present any appearance of its having been acted on by living parts; and on section—which was difficult, from the dryness and friability of the bone—the medullary cavity was the same as in ordinary section of bones.

“On further inquiry it was found that about eight or ten years ago the patient fell and received what was called a sallyswitch fracture of both bones; this was treated by splints and rest; she recovered with perfect use of the limb, but there was a slight thickening of the bone.

“That this was a case of necrosis there can be no doubt; and if it was the result of injury, it must have been of only two days’ duration, which is scarcely possible, for the bone to die, to lose its periosteum, cartilage and epiphysary end, and for a new case to be formed around the dead bone. Hence it was more probably the result of the fracture received so many years ago.”

OPERATING BY THE ELECTRIC LIGHT.—On the 11th inst., Mr. Berkeley Hill operated on vesico-vaginal fistula in University College Hospital while the vagina was lighted up by Mr. Coxeter’s application of the glowing platinum wire. The apparatus consisted of a fine wire twisted into a small knot. Through this knot was sent a continuous galvanic current, strong enough to maintain the wire at a white heat. The wire was inclosed in a glass chamber, which was itself also inclosed in another glass cover.

Through the space between the glasses a current of water was allowed to flow, in order to preserve a low temperature round the light. The afternoon, which was dark and foggy, afforded a good opportunity of testing this plan of lighting up deep interiors, and the illumination was completely successful. A strong light was maintained for more than an hour, close to the margin of the fissure, without impeding the manipulations of the operator. A considerable number of spectators assembled to witness the result of the illumination, and were highly pleased. —*London Lancet.*

TREATMENT OF HEMORRHOIDS.—Dr. Hext M. Perry, West Philadelphia, Pa., in the *Medical Brief*, September, 1879, says that, in the treatment of piles, he gives preference to the use of "Bartlett's Pile Suppositories," manufactured by Messrs. Henry C. Baker & Co., Philadelphia—the manufacturers of "Baker's cod-liver oil and phosphate of lime," etc. He claims that after a long experience with them they give immediate relief.

The next best treatment he has used is that recommended by Dr. Fordyce Barker, of New York, given in his work on *Puerperal Diseases*.

R. Ungt. gablæ comp. ʒj.
 Ext. opii aquæ ʒj.
 Liq. ferri sub-sulphat ʒj.

M. Make ointment. S. Apply to the tumors and well up the rectum twice daily.

In addition, take one of the following pills, night and morning:

R. Pulv. aloë, Socot. —
 Sapon, castil aa ʒj.
 Ext. hyoscyam ʒss.
 Pulv. ipecac gr. j.

M. Make twenty pills.

THE REPAIR OF BLOOD SUCCEEDING ACUTE DISEASES.—M. Hayem made the following conclusions in a paper presented to the Academy of Medicine (*Paris Medical*):

1. The evolution of blood arrested during the course of an acute disease reappears at the time of defervescence.
2. The rebuilding of blood in homatines is effected by means of a production of homatoblasts.
3. As far as the course of these phenomena is concerned, a distinction must be made between acute lesions of short duration

and rapid defervescence, and those having a slower course and whose defervescence is lingering. At all events, this repair of the blood is analogous to that which succeeds hemorrhages and especially to losses of blood of long duration. As a consequence of the homatoblasts, the blood of convalescents contains for a variable time incompletely developed red corpuscles, which tends to lower the mean quantity of coloring matter in all the red discs.—*St. Louis Medical Journal*.

SURGICAL OPERATIONS DURING PREGNANCY.—W. Oadger, F.R.C., Senior Surgeon to the Norfolk and Norwich Hospital, in the *Lancet* reports a case of recurrent tumor of the breast, for which it became necessary to operate no less than thirteen times, during a period extending from April 13, 1874, to December 20, 1875. She was confined on the 21st of September, 1875, and several of these operations were performed in the latter month of utero-gestation, and one very severe one in the early stage of labor itself, and in every instance without, on the one hand, interfering with the important process of gestation, and on the other, without impeding the recovery from the operation itself. As Sir James Paget pithily says: "It would be mere recklessness to operate on such patients without good cause, yet if good cause for operating exists, they may be treated very hopefully." The patient died in the early part of 1876, from exhaustion.—*Medical and Surgical Reporter*.

CYSTIC KIDNEY REMOVED BY OPERATION.—Dr. Day exhibited, at a late meeting of the Pathological Society of London, this specimen, which had been removed by Mr. Knowsley Thornton from the left side of a girl aged seven years. The patient presented a large, irregular abdominal tumor, the nature of which was doubtful. A swelling had been observed since the girl was two years of age, but she had not suffered from pain or discomfort. Last November an exploratory puncture was made in a part of the tumor between the umbilicus and pubes, where fluctuation was felt. Urinous fluid, which contained albumen, was drawn off to the amount of six pints and a half. The cyst rapidly refilled, and on January 3d it was removed by Mr. Thornton, and found to be connected with the left kidney. The ureter was impervious, so that there was danger of the distended cyst bursting.

IRON PREPARATIONS—EFFECT ON THE DIGESTIVE PROCESS.—Dr. Alfred W. Perry writes in the *Western Lancet*: In cases of debility, prostration, or loss of appetite, preparations of iron, alone or variously combined with bitter tonics, are seemingly indicated clearly, and are very generally used. But in many cases they do harm, either from their being administered at a wrong time or because they are not tolerated under any form or circumstance. The greatest abuse of iron is where it is given for loss of appetite or difficult digestion, and when it is given within half an hour before eating or within three hours after. We have found entirely to our own satisfaction, both by clinical observation and by experiment, that iron preparations introduced into the stomach while digestion is going on either hinder or arrest the process.

PREVENTION OF INFECTIOUS DISEASES.—*Medical Times and Gazette*: The Board of Health of the Canton of Zurich have just taken an important step with regard to the prevention of infectious diseases. They recently issued an order that every case of such disease, however slight, is to be reported direct to them, and for this purpose they have furnished every medical man in the district with books provided with counter-foils. Sanitary commissions, instituted with this object, will be obliged to send instructions to the medical men when the cases are considered serious, and will prescribe the means of disinfection, isolation of the sick, and other precautionary measures. The results of the information sent by the practitioners will be published every month under the direction of the Board of Health.

A SAD AND SUGGESTIVE PICTURE.—"I've been in twenty-four States and have seen a good many physicians," said a well-to-do physician who has made his pile, "and I don't understand why the most of them have such small practices. . . . But I discovered something that surprised me. I visited scores of physicians whose whole library I would have no difficulty in carrying off at once. One leading physician of a certain town did not have a bound book either in his office or house that I saw, only a few pamphlets and journals. Others that I met did not seem to be absorbed in their business. A man can not succeed unless his profession absorbs him."—*Exchange*.

HYPODERMIC SYRINGE AS AN AID TO DIAGNOSIS.—Dr. David Drummond, Lecturer on Clinical Medicine at the Newcastle-on-Tyne Infirmary, gives details of three cases in which he employed the hypodermic syringe as an aid to diagnosis. The first was a case of aneurism, with physical signs of effusion of fluid into the left pleural cavity; the syringe showed there was no fluid, but a solid lung, which led to the conclusion that the left bronchus was pressed upon by the aneurismal sac, and this was afterward verified in the *post-mortem*. In the second case cancer of lung and liver was suspected, and the syringe drew off characteristic cells; and in the third case, it demonstrated pus in the kidney, which was afterward aspirated with good result.—*Dublin Journal of Medical Science*.

SUCCESSFUL NEPHROTOMY.—The left kidney of a child aged seven was successfully extirpated at the Samaritan Hospital, on January 3d, by Mr. Knowsley Thornton (*British Medical Journal*.) The child is now quite well and at a convalescent home at Brighton. The case was admitted under the care of Dr. Day, and Mr. Thornton diagnosed cystic kidney, and advised exploratory antiseptic tapping. Some pints of urine were drawn off. The cyst refilled in the course of a few weeks, and was removed by antiseptic abdominal action.

COLD-WATER PILLOW.—William Woodward, M.D., writes, in the *British Medical Journal*: "In several cases lately I have had recourse to the use of a cold-water pillow, with very marked benefit, where headache, heat of head, and similar symptoms have prevailed. Any one who has experienced the vain attempt to find any permanent cool place in a feather pillow when desired will at once appreciate the above expedient, which, however, may not occur to every one at the required time."—*Louisville Medical News*.

OPERATION FOR PTERYGIUM.—Dr. Yreau Munar (Palma, Majorca,) describes the following method, which has been employed by him with signal success during six years: Firstly, he detaches the pterygium from summit to base; secondly, he folds it back in such a manner that the point touches the middle of the posterior surface of the base, fixing it in this position by means of two or three sutures. The external surface of the pterygium is thus turned toward the eye.

NERVES IN THE MARROW OF BONES.—M. Remy has examined microscopically the marrow of amputated bones, by means of chloride of gold, and claims to have discovered nerves. Some of them contain myeline, and are of small size; others are fibers of Remak. They are very numerous, follow the course of the vessels, and are, in all probability, vaso-motor.—*La Tribune Medicale*, January 1, 1880.

HICCUGH.—In order to relieve hiccough, inflate the lungs as fully as possible, and thus press firmly and steadily upon the agitated diaphragm. In a few seconds the spasmodic action of that muscle will cease.

BOOK NOTICES.

SORE THROAT; Its Nature, Varieties and Treatment, including the Connection between Affections of the Throat and other Diseases. By Prosser James, M. D., Lecturer on Materia Medica and Therapeutics at the London Hospital, etc. Fourth Edition. Illustrated with Hand-colored Plates. 12mo. Pp. 318. Philadelphia: Lindsay & Blakiston. Cincinnati: R. Clarke & Co. Price, \$2.25.

How very popular this work is in England is exhibited in the fact that, the third edition having been sold in a little more than three months, it was reprinted for the opening of the last winter session. This reprint, in its turn, having been disposed of before the close of the academical year, the author devoted his vacation for revising it for a fourth edition; and it is a copy of the fourth edition we have before us.

Not a few works have recently been issued in this country on Diseases of the Throat and Air-Passages—several of them of very considerable value—the authors being gentlemen of very considerable eminence in the profession—but we think this work will take a high rank as one devoted exclusively to Affections of the Throat. Says the *British Medical Journal*, than which there is no higher authority: “We can confidently recommend Dr. James’ therapeutic teachings as well worthy of the careful consideration of the profession; for they set forth the practice of an enthusiastic worker, whose special experience has been large and lengthened.” To the encomi-

ums of the *British Medical Journal*, the *Edinburg Medical Journal*, *Medical Press and Circular*, and other leading journals, we can add our own. After an examination of it, from its first chapter to its close, we feel that we can truly say of it that it is a most valuable addition to the literature of the class of diseases of which it treats, and that it will well repay the careful study of every practising physician.

The work starts out with a preliminary sketch of the whole subject of sore throat, and then the first chapter takes up the consideration of the nature and varieties of the diseases. In chapter second there is a very full and lucid account of the diagnosis of throat affections; and in this chapter the laryngoscope is described, and how to use it fully explained.

But we must refer the reader to the work itself for further information in regard to its treatment of its subject in its twenty-three chapters.

SKIN DISEASES; Including their Definition, Symptoms, Diagnosis, Prognosis, Morbid Anatomy and Treatment. A Manual for Students and Practitioners. By Malcom Morris, Lecturer on Dermatology at St. Mary's Hospital Medical School, etc. With Illustrations. 12mo. Pp. 320. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co.

Probably there are no affections so difficult to diagnose and so troublesome to treat as diseases of the skin. According to our observations the large majority of practitioners of medicine really know nothing about them. When called upon to treat a case they write for an ointment or a wash—usually some astringent preparation—and send the patient off as soon as possible.

To physicians who would like to know something about skin diseases, so that when a patient presents himself for relief they can make a correct diagnosis, and prescribe a rational treatment, we will unhesitatingly recommend this little work of Mr. Morris. The affections of the skin are described in a terse, lucid manner, and their several characteristics so plainly set forth that diagnosis will be found easy. The treatment given in each case is such as the experience of the most eminent dermatologists advise.

We hope that the publication of the work in this country will advance the knowledge of dermatology here.

EDITORIAL.

OUR readers will notice that we have gotten out two numbers of the NEWS this month. We have now *caught up*, and hope to keep so.

AN OFFER.—Before the year 1880 closes we wish to double, if not quadruple, the circulation of the MEDICAL NEWS. In order to do it we have determined to make some very liberal offers. Although the financial condition of the country is much better than it has been, yet very many physicians have a pretty hard time to meet all necessary expenses of living and indulge in current literature. Having a knowledge of this fact we have concluded to make use of it in accomplishing our wish; and, with it subserved, we will at the same time be aiding those who are somewhat straitened in their finances.

The intelligent wives and daughters of many physicians very naturally desire them to subscribe for some good monthly magazine, as *Harper's Monthly*, *Lippincott's Magazine*, *Appleton's Journal*, *Scribner's Magazine*, *Harper's Weekly*, *Atlantic Monthly*. It is not unfrequently the case that a physician, with a large family and poorly paying patrons, finds it quite a tax to take one of these literary journals for his family, and at the same time take a medical journal. He wishes his family gratified, but he feels he ought to take a medical journal. Medicine is a progressive science, and how can a doctor keep himself abreast of advancing progress unless he is a reader of the current medical literature? He can not. Without subscribing for a journal that will keep him informed of recent discoveries in his profession, he can not fulfill the requirements which the law demands of a physician; *i. e.*, to be informed of all the most approved modes of treating the various diseases at the time he is called to treat any of them.

Now, to afford every physician an opportunity to take both a medical journal and one of the popular magazines of the day for his family, and at the same time to largely increase our circulation, we make the following offer: To any one *who is not now* a subscriber for the MEDICAL NEWS, and who will send us the price for a year, and fifty cents, of the *Atlantic Monthly*, *Appleton's Journal*, *Scribner's*

Magazine, *Lippincott's Magazine*, *Popular Science Monthly*, or *Harper's Magazine*, we will send them the journal designated and the *MEDICAL NEWS*, for a year, for the amount sent. To *old subscribers* of the *MEDICAL NEWS* we will send either one of the journals mentioned at a dollar off of the subscription price.

Here is an offer that will enable a physician to secure a first-class medical journal, of nearly a thousand pages in a volume, for the trifling sum of fifty cents. We can not promise back numbers.

Again, to any one sending us the name of a new subscriber, and two dollars, or to the *new subscriber* himself, we will send by mail, Dr. Flint's Manual of Auscultation and Percussion—certainly the best work printed on the subject.

SONS OF TEMPERANCE.—THEIR OBJECTS AND PRINCIPLES.—During the past few years much has been said and written about effective temperance efforts and organizations—able to reclaim the inebriate and throw around them the strong arm of protection, and at the same time have the power to save the young from the snares of the tempter; and as the success of reformatory movements depends upon organization and united effort, and as individuals are better able to resist temptation by being brought within a circle of fraternal love and sympathy, attention is called to the advantages of the Order of the Sons of Temperance.

This organization was instituted in the city of New York, September 29, 1842, to supplement, solidify and perpetuate the results of the Washingtonian Reformation. For thirty-eight years the Order has been working diligently and increasing in numbers and power. It is now composed of a National Division, fifty-seven Grand Divisions, and nearly three thousand Subordinate Divisions, embracing every State and nearly every Territory of the Union—also, Canada, Great Britain, and the Islands of both the Atlantic and the Pacific Oceans, and it has enrolled more than three millions of persons. Its fundamental principle is total abstinence from all intoxicating drinks. It presents a fraternal combination to meet and overcome the social allurements of intemperance and the combined influence of the liquor traffic. Its beautiful and instructive ritual, filled with the spirit of love and self-

sacrifice for the welfare of others, appeals to the highest faculties of human nature. The plain and simple constitution, practical code of laws, sound financial basis, co-operation, sympathy, and union with the moral and Christian elements of the country, are making it one of the most powerful agencies against intemperance and the liquor traffic in the world. The growing temperance sentiment of the country necessitates permanent organization, in order that the good accomplished by the Murphy Movement and previous efforts may be perpetuated. The experience, moral, numerical and pecuniary strength of the Sons of Temperance offers every advantage necessary to satisfy the requirements of such an organization. Its membership is composed of the best class of persons of both sexes, old and young, who are actuated by a common purpose of reclaiming the fallen and throwing around them an influence calculated to benefit them morally, socially and intellectually.

The Order aims to educate the children in the principles of total abstinence, through organizations of the Cadets of Temperance, superintended and managed by the Divisions, and create a wide-spread public sentiment in favor of total abstinence, and to support and aid in carrying forward ALL movements designed to suppress the vice of intemperance. Not only does it aim to reform and save the drunkard, but also seeks to throw safeguards around the innocent, which shall prevent them from becoming victims to the vice of intemperance.

All who desire to share the privileges and benefits of such an organization, and to earnestly labor for the advancement of the temperance cause, are invited to join. Charters and general information may be obtained from E. J. Morris, Grand Scribe, 8 and 10 West Third Street, Cincinnati, O.

POPULATION OF AFRICA.—Accurate statistics of the population of Africa, and especially of the interior portions of the continent, are, of course, not yet obtainable, and it will probably be many years before several of the populous districts now known will be sufficiently accessible for a thorough census; but much important information has been gathered about the distribution of the inhabitants and the density of the population in the different parts of the country. In the region of the great lakes,

for example, there are countries as thickly populated as many of the States of Europe—relatively small areas, which, according to Stanley, possess millions of inhabitants. Behna states that the negro regions are by far the most populous, while the desert parts represent the other extreme. M. A. Rabaud, in a paper published in the "Bulletin of the Marseilles Geographical Society," gives the following as the population of the different sub-divisions of the continent: In the Soudan, the population is estimated at 80,000,000, or about fifty-three per square mile; the town of Bida, on the Niger, contains 80,000 inhabitants. The population of East Africa is estimated at 30,000,000, and that of Equatorial Africa at about 40,000,000. One of the latest authorities divides the population as follows among the great families into which ethnologists have separated the people: Negroes, 130,000,000; Hamites, 20,000,000; Bantus, 13,000,000; Foolahs, 8,000,000; Nubians, 1,500,000; Hottentots, 50,000. This would give a total population of 172,550,000. These figures are, of course, only approximate, and both German and English geographers think them too low, the former estimating the population at 200,000,000.

MR. BERGH, the irrepressible President of the Society for the Prevention of Cruelty to Animals, has had introduced into the Legislature a bill, making vivisection under any circumstances a misdemeanor; accompanying it with a memorial which sets forth, among other things, that "divers learned and scientific (but misguided) medical men have perverted the meaning and intention" of the act passed in 1867, which provides that the laws previously made for the prevention of the infliction of unnecessary suffering upon the brute creation shall not be construed to prohibit or interfere with any properly conducted scientific experiments or investigations, which shall be performed only under the authority of the faculty of some regularly incorporated medical college of the State. The memorial goes on to say that these learned and scientific, but misguided, medical men, "under the pretense of demonstrating to medical students certain physical phenomena connected with the functions of life, are constantly and habitually in the practice of cutting up alive, torturing and tormenting divers of the unoffending brute creation to illustrate their theories and lectures, but with

out any practical or beneficial result either to themselves or to the students ; which practice is demoralizing to both, and engenders in the future medical practitioners a want of humanity and sympathy for physical pain and suffering, which will greatly deteriorate their influence in their future professional life." It then makes the refreshing statement that "this matter of vivisectioning animals for so-called scientific purposes has been the subject of discussion and *universal condemnation* by the more eminent members of the medical profession in Europe," and finally calls upon the Legislature to "wholly suppress this barbarous and unjustifiable sacrifice of animal life and infliction of unnecessary physical pain, suffering and death upon the brute creation."

In commenting on the above, one of the daily papers very sensibly remarks that Mr. Bergh will gain nothing in his crusade against vivisection by thus misrepresenting the case, and that the statute of 1867, which he cites in his memorial, is a very discreet and well-considered enactment ; providing all reasonable safeguards against the abuse of vivisection, as it does, without forbidding its legitimate use. The value of vivisection, it continues, is a question for experts, and there is no reason to believe, nor does Mr. Bergh make any effort to show, that it is resorted to when the same end might be gained by other means. In other words, there is no reason why the law should be altered.

Atavism With a Vengeance.

WE recently had occasion to comment on the exhibition furnished the public, free of expense, by a certain *soi-disant* asylum superintendent and expert on insanity, in the Redemeir murder case. We now take pleasure in introducing to our readers a writer who makes his mark in the columns of our esteemed contemporary, the New York *Medical Record*. In its issue of December 20, 1879, we find a "Lecture on Insanity," delivered under the auspices of the politicians of the New York Board of Charities and Correction, which, with all its gross errors, its crude and undigested compilations, is published without a word of comment. The "lecturer," Dr. A. E. Macdonald, after stating that there is a return "toward the appear-

ance and form of other animals" in some forms of insanity, claims that there is an "equally perceptible return in habit and in action," and then follows this delicious morsel: "I have read of a case where a woman lived and acted like a sheep, and ate grass; and I know of a case where a young man has all the habits, and *a good deal of the appearance*, of a well-conducted horse. He harnesses himself to a wagon every morning and trots about all day, switching a tail which he has fabricated out of an old rope, and *so great is his consistency that he never fails to shy at a wheelbarrow.*"

The alienist staff of our esteemed contemporary seems to us to require a little remodeling—rearrangement, readjustment, as it were—if we are to judge of it by this specimen. The notion that the imitative tendencies of dementia, which are familiar to every tyro in mental pathology, are anything but manifestations of weak-mindedness could only enter the head of one affected in the same way. Just as the "enlightened alienist" quoted derives these cases from a reversion to the instincts of the lower animals, so he might have stated, with the same logic, that the patient whom we once saw in an asylum, who worked one leg and hissed all day, stating that he was a steam-engine, was a case of reversion to a steam-engine, exhibiting a "return in habit and action" to that apparatus! Dr. A. E. Macdonald proves too much even for the most furious of radical Darwinists. The latter would be satisfied with proving the descent of man from the monkey stock, but this "superintendent and expert" derives him from the horse and sheep simultaneously, and, at the same time, must, of course, trace his ancestry to inanimate objects like a teakettle or a steam-engine.

A little further on, the "learned doctor" exhibits an imbecile with hare-lip and atrophied testicle, adding, "like other imbeciles, he was probably born with as good a brain as other children." The question here mainly turns on what he means by "other children." If such children are meant as develop into superintendents who derive man from an equine or ovine ancestry, we have no doubt whatever that the statement is true that imbeciles *are* born with "as good a brain!"—*St. Louis Clinical Recorder.*

NEWSPAPER LAWS.—We call the special attention of postmasters and subscribers to the following synopsis of the newspaper laws:

1. A postmaster is required to give notice *by letter* (returning a paper does not answer the law) when a subscriber does not take his paper out of the office, and state the reasons for its not being taken. Any neglect to do so makes the postmaster *responsible* to the publishers for payment.

2. Any person who takes a paper from the post-office, whether directed to his name or another, or whether he has subscribed or not, is responsible for the pay.

3. If a person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it until payment is made, and collect the whole amount, *whether it be taken from the office or not*. There can be no legal discontinuance until the payment is made.

4. If the subscriber orders his paper to be stopped at a certain time, and the publisher continues to send, the subscriber is bound to pay for it *if he takes it out of the post-office*. The law proceeds upon the ground that a man must pay for what he uses.

5. The courts have decided that refusing to take a newspaper and periodicals from the post-office, or removing and leaving them uncalled-for, is *prima facie* evidence of intentional fraud.

OBITUARY.—Dr. Jas. B. Davis was born in Owen County, Ky., March, 1850, and died of typho-malarial fever August 17, 1878, at the residence of M. J. Rouse, in Pendleton County, Ky. He was educated at Owen College. He graduated at the Cincinnati Medical College in the spring of 1876, and began the practice of his profession at the place of his death. Dr. Davis was very proud of his profession and very attentive to his business, and was slowly but surely gaining a good practice. He was warm in his friendship, but slow to form acquaintances; but when friends once made were friends for life. He was a consistent member of the regular Baptist Church, and died in the faith of a Christian. He said he had rather stay and do good, but if it was the Lord's will he was willing to go. He died in full faith of a blest immortality, mourned and regretted by all that knew him best.

W. B. ROUSE.

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ORIGINAL CONTRIBUTIONS.

Hair Turning Gray.

[From the German of Dr. Pincus.]

BY L. R. PEET, YALLAHA, FLORIDA.

GENERAL observation teaches us that at a certain period of the development of the human being the hair becomes gray. When the relations are perfectly normal the appearance of grayness is preceded by other changes, indicative of age, thus showing it to be a natural stage of the process of maturing, which is in complete harmony with everything else. Moreover, this striking alteration of hue is not looked upon as an evil. It is, on the contrary, considered a thing which, other features being equal, calls for respect—sometimes excites even admiration.

But such normal development is seldom met with. Accompanying the grayness there is usually another change, which does not awaken much reverential emotion. The hair loses in length and thickness; and this takes place in two ways: either one hair in each group fails to reach its natural length and body, or all the hairs of the group suffer, yet on only a small portion of the scalp. In the first case there follows a regular thinning out; in the second a little tonsure appears. Sometimes the two forms are simultaneous.

If the decay of the hair comes with the grayness, and that only in old age, it may be considered normal, like the grayness itself. The aged have no demand for medical treatment of the hair. Indeed, such treatment would

be wholly void of result. If, however, this condition come soon after the fortieth year, or before the grayness, or if the loss of hair is more rapid than the change of color, it must be taken as evidence of disease.

In earlier times it was unhesitatingly accepted that the grayness took place in hair already fully grown. In truth, the hair was considered analogous to the limbs—in great measure permanent. The idea that there was a continual falling out and renewal did not enter men's minds. It never occurred to any one that the grayness began with the very young hair. Men thought that it seized the mature hair throughout its entire length at once. In our century quite the opposite view is taken. It is now held that no colored hair can ever become a gray one. The former must fall out, and the latter must grow in its place. Which opinion is the correct one can be determined only by examination of the hair which falls out, and by microscopical examination of the gray hair itself, together with careful observation of the young hair.

It is contrary to all unbiased observation that reserve coloring matter should evaporate or be re-absorbed. A hair plucked from the head may, it is true, be bleached by chlorine; but that a material similar to chlorine is provided by the scalp has never yet been made out. I, therefore, am convinced that where the microscope shows no color in a given hair, there has never been any there.

One thing, however, is possible. Two peculiar kinds of hair formation have been seen by observers: one was in Greifswald, about forty years ago; the other two years since, in London. Both were cases of young men, whose hair presented the appearance of a pretty equal distribution of white and dark—not alternate hairs, but alternate large groups. Some hairs were colored their whole length. There was no hair white throughout, but showed alternation of colored and white. On animals such hairs are often found; with men it is one of the rarest of rarities. At any rate only the above cases are on record. The microscope showed a marked difference between the human hairs alternately colored and those of animals. Many observers examined the human hairs, and with the following result: Even in the white places the coloring matter was unmistakably present—it merely made no impression on the retina, because the surface of the hair was scaly, and among the scales were a great many minute

air-bladders—oblong or round—which being at different levels, reflected the light with rather intense brilliancy, keeping it altogether from reaching the granules of coloring matter; thus, by reflection, giving the effect of total absence of hue.

This observation started the thought that the taking on of grayness might sometimes be due merely to the loosening of the outside layer, and the formation of scales with their air-bladders. It may be that all cases of sudden change to grayness may find satisfactory explanation in this fact.

As is well known, we often hear of men and women who in a few hours become perfectly gray, in consequence of violent emotional excitement. The most familiar instance is that of Marie Antoinette, whose hair, after she had heard her sentence of death, became, in two or three days, quite gray. Last year a case was reported by a physician of Hamburg. During an overflow of the Elbe, a peculiarly constructed under-ground room began to fill with water. This cellar room was occupied by a man and his son. The boy was in the first deep sleep after the reaction ensuing upon a violent attack of some disorder. In the general confusion, arising from the sudden overflow, the occupants of the room were overlooked. On being aroused by the rising water the man immediately sat upright, and lifted his helpless boy as high as he could, so that the latter might not be suffocated. The room being very low, there was not space for him to convey his child to the outer door. The constant rising of the water soon made it apparent to him that both must perish. At the very last moment he was rescued. A short time after he found that his hair, previously dark, had become gray. Unfortunately the physician who observed the case did not make use of the microscope.

In another case, that of a young man in Greifswald, where grayness followed a violent attack of delirium tremens, observations with the microscope were made, and it was shown that there was still color in the hairs—the surface being covered with scales and air bladders.

These observations, however, have but little weight, as they were not made in strict conformity to the severe requirements of science. The hair was not examined *before* the condition resulting in grayness. The young man may have already had gray hair, disguised by dyeing; and the

apparently sudden change may have arisen from his neglecting to apply the customary dye. Even if this was not the case, still doubt remains, and can not be eliminated. If such instances are ever genuine they occur very rarely indeed.

With experiences in view which I have repeatedly made, I would caution against another source of error. Suppose a man in middle life loses his wife, after a short illness, or a mother is bereaved of her son, previously in sound health and full of promise; suppose a merchant brought to the verge of what seems inevitable bankruptcy by the failure of a business friend, causing him weeks of intense mental distress—it may well happen that the normal condition of the scalp is so interfered with that no coloring matter is furnished to the young hair. Observing acquaintances confidently infer that the grayness is due to the painful excitement. Now, if such hair is carefully examined with the microscope, it will be found that grayness extends only a short space from the root, and that the color is not actually absent; it is merely hindered from showing because of the state of the external layer. In such instances of sudden change I have never found a single hair gray throughout its whole length.

In my opinion this highly interesting matter assumes about the following form: It has never, thus far, been clearly established that a colored hair has become gray throughout its entire length, or, indeed, in any portion of it. The declaration has, rather, always come thus: the subsequent, or base growth, has had no color, or the colored hair has fallen out to make way for its gray successor. No other kind of grayness has ever been observed. If any one should ask me whether I believed in suddenly supervening grayness, I should reply: "In natural science no one may say he believes, or does not believe. One should observe and investigate, in order to arrive at the truth. We should have no belief about it. At least we should never rest satisfied with belief."

The question under consideration is readily answered by observation; and I hope many readers of these lines will thereby be induced to become observers. Let them, however, be correct ones—without bias. Let him who conceives that he has gained something new at once consult an expert, or communicate the supposed knowledge

to me by mail. A single well-established fact may clear up a subject which has troubled physicians for twenty-three centuries. Such facts must, however, be confirmed on the spot by some competent expert, especially aided by the microscope.

That a hair, previously colored, may become gray in appearance, can not be doubted. I will give an observation of the distinguished Brown Sequard as confirmatory. About a year since he found, one morning, a few white hairs in a group among his dark-colored beard. It surprised him to see these hairs, and in order to investigate the affair, he carefully drew them out with a pair of tweezers. The next day a few more decolored hairs showed themselves around the spot where the others had stood. He drew these out also. The following morning another lot appeared. Unfortunately, the observation, although made by an able investigator, is lacking in scientific precision. He did not measure the extracted hairs—a very important matter—neither did he make use of the microscope. Yet I hope others may be influenced by his action. It must be constantly borne in mind that the microscope should attend almost every observation.

If, as I conjecture, such hairs (of the beard) should show that the color is really present, it would be only a repetition of what has been observed in the hair of the head, although the structure of the two kinds of hair presents radical differences. The hair of the beard would show the phenomenon of rough, scaly surface, in a more marked form than the hair of the head.

As the condition of the hair in becoming gray, along with the falling out, shows itself in the daily loss, I append two tables—one exhibiting grayness only, the other grayness with loss of hair from disease.

The hair of females that has never been cut is the only kind upon which entirely satisfactory observations can be made.

Explanation of Table I.

It will at once occur to the reader as strange that the number of hairs falling in a given time (451) was greater with the lady whose hair was healthy than with the other one (438). The reason was the lady with decaying hair had already lost so much that she had perceptibly less hair on her head. Hence, I repeat, the mass of hair falling out in the same length of time is never a guide in

making a diagnosis: it is the quality as to length and body.

The greater number of hairs having natural points in the second case shows disease of the scalp; for the presence of point is proof of vigor; and the greater the comparative number the stronger the proof of a weak hold at the root. The most striking difference is shown in the short, immature hairs. The younger the hair the more manifest the presence of disease.

Two things make clear whether the hair is unhealthy: the aggregate number of short hairs found, and the diameter of each hair.

TABLE I.

A—LADY OF SIXTY YEARS—SIMPLE GRAYNESS.	B—LADY OF SIXTY YEARS—GRAYNESS, WITH LOSS OF HAIR.
1. Whole amount examined.....451 Between 1 and 2 inches..... 38 " 2 " 6 "153 Over 6 inches.....260 2. Those with natural point.....205 Of these 1 to 2 inches..... 20 " " 2 to 6 " 87 " " over 6 inches 98 3. Large hairs207 From 1 to 2 inches 13 " 2 to 6 " 36 Over 6 inches.....158 Hairs of middle size.....109 From $\frac{1}{2}$ to 2 inches... 16 " 2 to 6 " 30 Over 6 inches..... 63 Fine hairs.....135 From $\frac{1}{2}$ to 2 inches 9 " 2 to 6 "91 Over 6 inches.....85	1. Whole amount examined.....438 From 1 to 2 inches.....157 " 2 to 6 "175 Over 6 inches.....106 2. With point.....324 1 to 2 inches.....133 2 to 6 "139 Over 6 " 52 3. Large hairs171 From 1 to 2 inches..... 45 " 2 to 6 " 47 Over 6 inches..... 79 Hairs middle size138 From $\frac{1}{2}$ to 2 inches 41 " 2 to 6 " 72 Over 6 inches..... 25 Fine hairs129 From $\frac{1}{2}$ to 2 inches 74 " 2 to 6 " 53 Over 6 inches 2

The following table will show additional facts concerning the foregoing cases:

1.—LADY—FALLING OUT OF THREE DAYS.	2.—LADY—FALLING OUT FOR FOUR DAYS.
Whole amount.....437 (a) Among them quite white.....138 1 to 2 inches..... 9 2 to 6 " 43 Over 6 " 86 (b) Roots alone white 34 2 to 6 inches..... 1 Over 6 " 31 (c) Points only white..... 7 2 to 6 inches..... 1 Over 6 " 6 (d) Point and root white..... 3 (e) Middle alone white 3 (f) Repeated change of color..... 1	Whole amount.....514 Quite white..... 53 1 to 2 inches..... 10 2 to 6 " 34 Over 6 inches..... 9 Roots alone white..... 7 Over 6 inches..... 7 Points only white 4 2 to 6 inches..... 4

This table shows that among those partially, or entirely white, most of them were decolored their whole length. The microscope exhibited very little coloring matter. This leaves scarcely any doubt that the white hairs were successors of colored ones.

A small portion of the white hair showed only the root as without color. The most careful examination revealed but little coloring matter. This seems to make it quite clear that in the later growth of the hair no color was furnished.

Some hairs had white points; and one, twenty-four inches long, had several alternations of white with dark. This may be accounted for by supposing that the supply of color, from some cause not known, was irregular, probably subsequently to becoming continually deficient.

Reflections Upon the History and Progress of the Surgical Treatment of Wounds and Inflammations.

BY EDWARD BORCK, M. D.

Read before the Missouri State Medical Association, at Columbia, Mo., June, 1879.

THE paper I have to offer, as a member of your Committee, I entitled "Reflections Upon the History and Progress of the Surgical Treatment of Wounds and Inflammations," and will say that it is difficult to select a subject from the treasury of surgical science that will interest and be of practical value to all practitioners. I might have chosen plastic or congenital surgery, or some capital operations, but they are not of daily occurrence, nor is it the good fortune of every doctor to have the opportunity of performing them. Furthermore, they are nearly all in a high state of perfection, and we can not, in the short space of one year, expect great progress.

Take lithotomy for instance. It is almost perfect, and lithotrity is gaining ground.

See Dr. MacLeod's (of Glasgow) excellent paper advocating the rectangular staff.

Dr. David Prince upon the same subject—median operation.

Dr. Wm. Hudson Ford, Province of Lithotrity, *St. Louis Medical and Surgical Journal*, May, 1878.

Dr. H. F. Bigelow, *American Journal Medical Science*, January, 1878.

Dr. Geo. C. Duncan, Litholysis, *Edinburgh Medical Journal*, May, 1877.

Ovariectomy is also at its height. The operation has been performed in the past year, in several instances, during acute peritonitis, successfully. Also on a child twelve years old, by Dr. T. Barlow, May 25th, 1878.—*London Times*. Also on a child seven years old, and upon an infant two years old, the latter for a dermoid cyst.

A case of Cholecystomy, by Dr. W. W. Keen, of Philadelphia, is reported—*American Journal Medical Science*, January, 1879.

Splenotomy, by Billroth and H. L. Broome, of *West Brownswish District Hospital* (fatal).

Osteotomy is growing in favor.

Herniotomy is at a standstill. I have found no new invention for the cure of hernia.

Extirpation of the larynx has been successfully performed by Dr. David Foulis, of Glasgow, and by Billroth—the patients being subsequently provided with a vocal apparatus.

Excision of the rectum, by Koeberle, of Strassburgh, and all functions regained. Also a successful case, each by Dr. Briddon, of New York, and Dr. Lewis, of Philadelphia.

Excision of the tongue, by Paquelin's, Thermo-cautery.

Upon fractures and dislocations, so much has been written and apparatuses are so manifold, that the subject is almost exhausted; but I will call your attention to malleable glass, which may be available for splints in the future, and other dressings. The only thing new and original, to which I can call your special attention, is a paper by Dr. Luecke, of Strassburgh, "On Percussion of Bones," read before the Congress of Surgeons at Berlin. (*American Journal Medical Science*, April, 1878.) The rubber bandage also deserves special mention. A fine field, yet open to the surgeon for investigation and experimentation, are the nerves and dislocations of muscles and tendons. I have made slight allusions to a few of these operations.

But, gentlemen, little things ought not to be neglected on account of great ones. If one knows how to remove

a nævus (mother mole) without leaving a more ugly or ghastly cicatrix than the natural disfiguration, treats an ingrown nail, or bone felon well, or knows how to remove a splinter from under the finger nail skillfully, he will earn as much honor. It is the attention that one bestows upon minor injuries, and the success he attains in their treatment, that first brings him reputation, and afterward capital operations. He who neglects minor points will never be a surgeon of repute.

Therefore, I have selected the old but always new story—wounds and inflammations—and permit me to go back a little further than twelve months and call your attention to John Astruc, a French writer, in 1761. He tells us that swelling and ulceration are inflammations, and often accompanied with fever, and that they are the principles of medical sciences which we should learn to understand fully before studying any other diseases, and further says, I don't talk much about theory, but care more for the cure, the practical part, and will take good care to give the very best of remedies known.

He then tells us that swellings are elevations or protrusions beyond the natural line; classifies them into natural, unnatural and preternatural; the latter again into phlegmon erysipelas, œdema, etc., according to the old writers, but thinks it would be better to classify them by following the different causes that produce these swellings, namely:

Swellings from blood, from lymph, from air, from fat, etc., etc., and tells us that inflammation is known by pain, heat, redness and swelling, and, after dividing the same into external and internal, describes the state of invasion, augmentation and resolution. He then gives the internal and external indications for the cure. He never uses the word "treatment," and devotes twenty-eight pages to the indications.

The first, he says, is to lessen the quantity of blood by bleeding, and contends that if we lessen the whole mass of blood we will also lessen it in the blood vessels that run to the inflamed parts; therefore bleed freely in the beginning, for if the inflammation is at its height, venesection will do no good. The thick blood must be thinned by ptissanes of liquoris or doggrass-root (*Rad. graminus*), the heat of the blood must be allayed with chicken tea or lemonade, to which nitrate of potash may

be added. He advises low diet, and also cathartics as manna, and emetics of ipecac, chickory-root or marsh-mallow, if there is much fever, and tonics to strengthen the heart, as the powder of dried viper or volatile salts.

Externally, warm milk, decoction of althæ or mallow-flowers, wall pellitory, or death's-head-moss cataplasm of milk and bread, rice or oatmeal, with honey; should try to produce resolution, and, if necessary, to add wine, alcohol or camphor to this; rest, compression by a nicely applied bandage, and prudence may secure resolution, but if abscesses form, they must be cured by mush of flour, to make matter (pus); when ripe, to be opened with the knife or caustic, and then dress with basilicon ointment to keep out the air; for bad smell to use tinct. of myrrh or aloes, or camphor spirit; to make cicatrix, dry dressing or burnt alum. To cure carbuncle, same as already mentioned, and in addition, blue vitriol and lard externally, or cure at once with escharotics, like *lapis infernalis*, or actual cautery, and to finish with balsams. In ecchymosis, bleeding and scarifications, externally, piece of bacon or fine chewed bread, paper or nuts, or white bryony root with chamomile and laurel berries as poultices. For frost-bites he recommends turnips, turpentine, and to smoke the part with myrrh or storax, or, still better, old leather or horn, and aromatic bath of lavendulæ. Thyme, sage, or sow-bread (*Rad. Cyclamins*) with wine or warm urine, and to pencil with ol. lubricorium.

In erysipelas, the same remedies, except no fatty applications, nor astringent remedies, but cooling medicines, like rose vinegar. If pain is great, cow's milk, elder flowers, white of an egg, as cataplasm. After inflammation is subdued, lime water and alcohol.

Simple wounds he dresses with plaster or salve, to keep out the air. Such are the writings, a century or more ago—quite different from the present time. Then remedies were sought after; now we have more physiology, pathology, histology, theorizing and speculations, and less treatment.

Nevertheless, men like John Astruc were most acute observers, students and experimenters; for he tells us in one place that absorption must take place through the lymphatic system, and proves it by taking a dog, whipping him unmercifully, until the whole skin was ecchy-

mosed. After a few days he opened him and found the lymphatics full of red blood, which showed, he said, that they had partly taken up the blood that was extravasated. So much for our French writer, for curiosity sake.

If we now glance over John Bernstein, a German writer, in 1790, twenty-nine years later, we shall find more attention paid to the process of inflammation, and less to the cure. He also tells us that inflammation (*phlegmon*) is known by redness, swelling, heat and pain—divides it into *vera* and *spuria*. He speaks of a double fever, a fever preceding the inflammation, and a fever accompanying inflammation or a consequence of it; gives the symptoms, and mentions the complications of nervousness and biliousness; describes shock, and speaks of a fever produced by bad air in hospitals, etc., etc.

The treatment, he says, is antiphlogistic, but no mention is made of calomel and tartar emetic. He, however, speaks of cinchona bark as a tonic and absorbent of bad fluids in the system. Externally he thinks bread poultice the best external application, as did the French writer.

To wounds he devotes 228 pages; and, after the usual classification, describes the healing process. Speaks of direct union, and union by pus; describes a putrid fever accompanying wounds, and attributed the cause to matter running into the system.

Wounds he wishes to be dressed simply, and lays great stress upon rest upon splints and bandages, and upon keeping the air and dust off. The mind of the German writer, we see, ran in another and better direction.

Their remedies are all from the vegetable kingdom, though there was a time when the minerals, lead, zinc, copper, mercury, bismuth, etc., etc., were in the ascendant.

Some may think all this superfluous, but if you read and study old books you will find it pays well. You will often observe that things appearing as new are but resurrections, and many have been transmitted to us to the present time. Some read as well as novels. If you go beyond the time of the two authors I mentioned you must read Percy, for he tells the most charming tales of the mysterious vulnerary waters of the middle ages.

But, gentlemen, it was John Hunter's researches that gave the foundation to our present views. The history of the rational treatment of wounds begins with him.

(Hunter's Treatise on the Blood, Inflammation and Gun-shot Wounds, 1793.) He was the first that described the process of healing, by first intention, formation of granulations and pus, suppuration and cicatrisation, and divided them into the different stages. He studied all the processes with a marvelous acuteness of observation. His work was, at the time, not understood by his own countrymen, who looked upon it as the product of a fanciful mind; but it is a remarkable example of the many great conceptions which were evolved a century previous to the time of their general acknowledgment. Even the discovery of the animal cell did not upset Hunter's principles—it only explained what elements are at work during the different processes—the process itself is still comprehended and taught us as by Hunter. He also studied the process of the healing of subcutaneous wounds (1767), and his piercing eyes also recognized the peculiar process of healing under a scab—he comprehended the surgical, or, as he called it, the symptomatic fever, as the effect or result of suppurative inflammation upon the constitution—he recognized phlebitis and the mixing of pus with the blood as possible. It is not necessary to quote more than this. We see that the experiments and ideas of Hunter spread themselves over generations, and concatenate closely with all our own modern investigations. If the process of healing, as Hunter taught it to be distinguished, was understood before his time, the surgical fevers would also have been studied before him.

But just as bad as the constitutional treatment was the local; the stuffing of wounds with charpie, the use of all kinds of plasters, herbs and roots, cataplasms and ointments, was a blind mania, and the few surgeons who had the courage to condemn such misuse appear to us as benefactors of mankind. (Edw. Albert's Surgery.)

I do not need to speak here of the badly ventilated hospitals in Europe, and especially of Berlin and Paris. Refer to G. Fischer's Surgery, a century ago.

Pringle desired fresh and pure air for the wounded. Gregory, in Edinburgh, Fordy, in London, urged humane arrangements for that purpose. Panteau's and Pelletau's cautions against the abuse of charpie, Smucker's recommendation of cold water in injuries and inflammations, were the first sign of reform in an ignorant and horrid treatment.

In 1809, Vincenz Kern, in opposition to the French, who still persisted in the old treatment, introduced the simple treatment of rest, easy position and lukewarm water dressings. From this arose the permanent water baths of Wagner, Loninzer, Langenbeck, Stromeyer and Gosselin, which, on account of the difficulty of their employment, did not become general.

This simple treatment, with water, found the best reception in England, Scotland and Ireland, where Liston practiced and advocated it until his death. This method is still adhered to in some hospitals in Germany. In France this method has only occasionally been practiced, and never was in general favor, because the arrangements of the French hospitals produce, too often, putrid diseases; and simple water dressing gave to the French surgeon no protection against such an occurrence.

So, we see, that about this period the treatment of wounds was divorced from the dreadful quackery that had bewildered the surgeon, and that has corrupted the laity to the present day. A return was made to the natural process of healing wounds—that is, to keep off that which was injurious and to assist nature.

But what is this natural process? First, the quick healing of wounds by first intention. Second, by pus, and formation of granulations. The laity had recognized this first process, and does so at the present day. If a cabinet maker cuts himself with his chisel he sucks out the blood and smears the wound over with glue to keep out the air, and he informs you that his wound is healed up in a short time. The painter uses varnish and white lead for the same purpose. The bookbinder glues a piece of paper over a cut. The railroad man employs petroleum; the shoemaker a pitch plaster; the baker chews some bread and applies it; the butcher ties a piece of raw meat upon his wound—the three latter generally not healing so quickly. So we see that to keep out the cold or bad air from wounds is recognized, by people in general, as necessary.

However, if we simply apply water dressing we are passive, and leave the work to nature, either to heal by first or second intention. This passiveness seemed to disappear at the end of the last century and the beginning of the present, and an activity appeared, in some form or other, to produce reunion by first intention; and, although

it is true that some French surgeons—Valentine, Percy and others—had tried, and were convinced that union by first intention could be produced, nevertheless it was not until the researches of Hunter, and the publications of John Bell, on the treatment of wounds, that the general attention was directed to the reunion direct.

To-day, then, there are two methods of treating wounds.

The securing of union by first intention, and water dressings for the second intention, or, healing by suppuration—the open treatment.

I shall not occupy your time with the whole history of infectious surgical diseases, accompanying or produced by suppurative wounds; suffice it to say, that infection from such sources is self-evident. We have to take into consideration infection from external sources.

These questions, and how these infections take place, occupied the minds of surgeons.—Refer to Darcet, 1842, *Decomposition of Pus*.

Sedelot, 1843, teaching of absorption of gangrenous debris in blood, and cause of purulent infection.

Monteggin, Velpeau, Dance on pyemia.

Virchow, 1846, on the same subject.

A. Guerin, 1847, purulent infection, upon which he looked as a surgical typhus, and compared it to malaria.

O. Weber and Billroth, by experiments, followed the same ideas, and we find that the theory of surgical fever produced by some infectious matter or substance in a wound was accepted from all sides.

But of what nature is this poison? Whether it is a chemical poison, bacteria or a micro-organism which produces putrid infection, I shall not discuss at present.

But long before this theoretical question sprung up there had been an endeavor to find remedies that would prevent putrid infection of wounds.

Maisonneuve, 1862, advanced the following theory, and says we may prevent infection:

1st, By preventing the production of poison.

2d, By destroying the already present poison.

3d, By blockading, and thereby preventing the poison from entering; and Rochard, in his history of French Surgery, very ingenuously adds: This is truly a logical train of thought, but it is astonishing that surgeons began with the last, and not with the first proposition.

Accustomed to expect everything from operative sur-

gery, methods were invented—first to blockade the road against the poison; second, it was tried to neutralize the poison by dressings, and last came the happy thought that seemed to solve the problem; namely, to better the arrangements of hospitals, adopt a method of hygiene, and thereby prevent the production of any infectious putrid poison.

In 1698, an English surgeon in London recommended sulph. acid. as an antiseptic. There was also a secret nostrum, a powder, which was sprinkled upon wounds to prevent suppuration; but a systematic method of antiseptic dressing was first begun in the last fifteen years.

1st, Came the glycerine dressings by Demarquay.

2d, The powder of Corne and Demeaux, 100 parts of plaster of Paris and $\frac{1}{3}$ parts of coal tar, which he tried upon wounded Austrian soldiers, 1859, and which occupied the French Academy greatly, but did not satisfy them.

3rd, Fluid de Condry (*pot. permang.*) which was employed in England and during our war, also bromine and many other remedies; but they all acted only as disinfecting agents; they would not prevent surgical infections, neither did alcohol dressing.

Chemicals, then, disappointed the surgeon, and other methods to prevent infection were sought after.

Original was the idea of Jules Grierin of pneumatic occlusion. He tried to keep off the air by putting the amputated limb in an India rubber bag and exhausting the air. Lonnelongue, Maisouneuve and others, tried to improve upon the method; but it remained only a trial. Then comes A. Guerin, who, instead of keeping off the air, tried to filter it through cotton dressing. After bleeding ceased, the wound was washed with camphor spirit and water, and dressed with layers of cotton, which remained undisturbed for three weeks. With success he introduced this method during the war (1871), in Hospital St. Louis, and it was gladly adopted in others; but it excluded the healing by first intention. All his trials and experiments had not the wished-for success. It disappointed the hopes of the surgeon and left us in despair that the infection of wounds ever should be prevented by dressing.

But lo! just at that time, when despondency was at its height, came a man of talent and perseverance, and

showed us that we ought not to doubt. Lister, with his antiseptic dressing, created a new era in surgery, and by it we hope to completely control surgical infections.

Lister is a firm believer in Pasteurs' teaching, and with his method you are all acquainted.

Gentlemen, the three greatest achievements of surgery have been obtained in the present century. The discovery of Anæsthesia, the blood-saving method of Esmarch and J. Lister's antiseptic dressing. If those great men, who have labored so faithfully and so greatly promoted the art of surgery, *i. e.*, a Cooper, a Dupuytren, a Scarpa, and others, could arise from their graves, and could witness to-day a simple amputation, or a resection of the knee, under a deep narcosis, with Esmarch's bandage and Lister's antiseptic spray and dressing, they would surely think they had slept more than a century; they would greet with enthusiasm what once they had thought in revery. I admit that Lister's method is not convenient for daily practice, but we can use it in some form or other. The different modified methods that may be employed for dressing wounds, as well as the present modern treatment of inflammation, I leave for discussion to the members present, but will call your special attention here to thymol, as an antiseptic, vaseline, benzoic acid and boracic acid ointment, as a dressing for wounds.

In conclusion, let me ask the question: How much credit for the late advancement of surgical science, and for the invention of mechanical appliances, belongs legitimately to the American profession? If the time were granted me, it would give me pleasure to point it out to you, and I am sure many would be astonished to find that, not alone have we kept pace with the old world, but that, in many respects, we have surpassed it. Gross' "A Century of American Surgery" will give you a slight idea. That we take the lead in mechanical surgery is beyond any question, and proven by granting to America the first premium for orthopædic and surgical instruments at the Paris exposition.

As late as thirty years ago you could hear but little or nothing of American surgeons in Germany; to-day they are bound to acknowledge American skill, and give due credit where it rightfully belongs, as shown by the translation of American works into German and other languages, and by the mentioning of our surgeons in their

lectures, and by the adoption of some of our apparatuses; namely, the suspension splint, etc., during their war and in their hospitals. True it is, that almost every country had its renowned surgeons; but comparatively, they have been few, and, though we can not boast of a single one that has overshadowed all the rest, yet our knowledge and skill is more diffused over the whole country; and if we carefully collect everything and bring it in one compass, we certainly can compare favorably with the rest of the world. If, with the ingenuity that is congenital to the Americans, we keep on progressing in the future as we have done in the past, certainly something extraordinary must be accomplished. When specialists have obtained better recognition in the profession, then, and not until then, we shall have our great surgeons to adore.

Gentlemen, if we could arise after having slept a century in our graves, and assemble here again, and could behold the progress then with all our new inventions, *the megaphone, the telephone, sphygmograph, the dental engine*, etc., I feel sure we should be astonished and struck with admiration.

The Pathology and Abortive Treatment of the Zymotic and Inflammatory Diseases.

Read before the Academy of Medicine, Cincinnati, Ohio, February 16, 1880,
by DR. J. KORNITZER, of N. Topeka, Kansas, and reported for the
MEDICAL NEWS.

THE essayist, very briefly, without any quotations and by a strictly scientific succession of logically coercive conclusions, arrives at the fact that, in the feverish diseases, by an idiopathic *local exudation* into the parenchyma of some organ, say a lobe of the lungs, and, by the *general exudation* which, owing to the consecutive general relaxation of the entire vascular system, takes place all over the organism, *the blood loses a most considerable proportion of its oxydable (combustible) constituents.*

He further shows, by incontrovertible evidence, how by a concatenation of anomalies, the mechanical momenta, co-operative in absorbing and forwarding the lymph and chyle into the blood current, are impaired in these diseases; how stagnation is established all over the lymphatic and chylapoetic system; the thoracic duct ob-

structed and clogged up with a stagnant *unmoved* stock of valuable material, and, thus, *the only channel to carry substantial food to the impoverished, needy blood, more or less completely obstructed.*

These two facts, namely, the exhaustion of the blood by local and general exudation on one hand, and the adequate supply of fresh, easily oxydable material being cut off, on the other, Dr. K. considers as constituting the deadly danger in all feverish diseases. He says:

"8. Now let us consider the condition of things in fever. On one hand, the tissue interstices of *all* organs, and especially of the organ idiopathically diseased, *inundated with a plasma swamp, teeming with proliferous minute organisms*; while, on the other hand, the blood is robbed of, qualitatively and quantitatively, most important constituent parts. The blood, I say, robbed of its vital parts, *without receiving by way of its feeding pipe, the thoracic duct, the necessary new supply of chyle; that fresh, alimentary material of low oxydization*, so essential for the maintenance of the physiological condition of the blood. For let me demonstrate here that:

"9. *The main forces in forwarding the lymph and chyle are utterly impaired in this class of diseases.*

"One of these forces is the diastolic *movement* of the heart. This diastolic movement, I am afraid, is perhaps a little too slightly thought of as a dynamic force. Let me give you an illustration. Suppose the heart to be inclosed in a rigid capsule, say of bone, for instance. It is evident that in such a case a vacuum would arise, at every systole, between the heart and the inner surface of that capsule, and that because *natura vacuum horret*, the heart would return to its diastolic attitude, not with a mere passive relaxation, but a considerable active force, which would necessarily exert a considerable suction on the neighboring large veins and indirectly on the thoracic duct. Now, the pericardium is not a *rigid* capsule, it is true; but, on account of its being fixed to the sternum, the diaphragma and the mediastina, it will, to a certain extent, act as such.

"Another very important and efficacious force in forwarding the lymph and chyle is *the difference of pressure within the thoracic and abdominal cavities*—that of the latter being the larger—and that *difference still increasing at every inspiration.*

"A further momentum in the onward movement of the lymph and chyle is the *contractility and the valves* of the lymphatics and lacteals and the contraction of the skeleton muscles in bodily exercise.

"Now let us see how matters stand in this regard during a fever paroxysm.

"(a) The lymphatics and lacteals, like the rest of the vessels, are in a subparalytical state;

"(b) The inspirations are shallow and inefficacious, the excursions of the diaphragma small;

"(c) There is no bodily exercise;

"(d) The cardiacal suction is greatly impaired on account of there being but small diastolic movements.

"(e) The lymphatics, including the thoracic duct, that delta of the lymphatical system, are filled up to their utmost capacity with stagnant contents, and the mesenterial and lymphatic glands are obstructed by the excessive proliferation that is going on in them, or, may be, by the invasion into them and accumulation of white globules.

"Now it is evident that under such circumstances the resorption and onward movement of the lymph and chyle must come to an almost absolute standstill.

"And it is these two items (8 and 9) that constitute the mortal danger in all diseases of the class under consideration here. These diseases are, in fact, identical in all essential characteristics, and differing only in regard to locality; that is to say, in regard to the vasomotor nerve centers primarily injured. In all disorders of this class we have to deal (1) with some more or less extensive local or primary exudation, and (2) a general exudation which is diffused all over the system."

Dr. K. makes himself the *expounder or interpreter* of the febrile symptoms by pointing with really striking clearness to the *material and mechanical* causes producing the same, and to the succession in which they follow out from and after one another.

In doing so he succeeded in giving us a valuable frame on which to build up the natural history (or let us call it morbid physiology) of the feverish diseases—a thing which, up to this day, has been the keenly-felt *pium desiderium* of the thinking practitioner.

But better—because of immediate practical value—than all this, are the *indications for treatment*, which

the essayist quite cleverly, though in a very simple way, derives from his pathological theories, or *facts*, as he calls it—and the *special treatment of a whole series of diseases of the class in question*.

He maintains that in nearly all of them he had put his method of treatment to a strict test, and, *at every instance*, found it not only unfailingly successful—this might as well have been accidental—but really *abortive*, cutting short the most severe cases of scarlet, typhoid, pneumonia, etc., and introducing manifest convalescence within two to five days.

Let us quote here again from the paper:

"What I have said up to this is quite sufficient to draw indications for THERAPEUTICS.

"The first of all indications within our reach to fulfill is, to quickly evacuate the clogged-up thoracic duct and to keep its passage free in order to re-establish and maintain lively resorption all over the system.

"By bringing about this the blood is, at the same time, *fed* (by receiving the contents of the thoracic duct), and the exudation, by its being reabsorbed, is *saved from decomposition*, or, at least, from further decomposition.

"To fulfill this *vital* indication *quickly, safely* and *perfectly*, there is nothing better than *repeated vomiting*. I say *repeated*, since, in order to be really beneficial, it must be induced every eight to twelve hours in the first two or three days, and after this once in twenty-four hours, as long as the fever is threatening to become high.

"The mechanism of the act of vomiting I certainly need not describe here; it will suffice to say that the powerful and symmetrical contraction of the abdominal muscular system (*prelum abdominale*) will press out the alimentary canal like a sponge. The contents of the stomach, and, in part, the duodenum, will escape by the esophagus, of course. But that is the least thing performed by the vomiting act. The most important is the forwarding of the contents of the intestinal villi and submucous cellular tissue toward and into the thoracic duct, and so to shove the contents of this large canal onward and into the left subclavian vein.

"And that is not yet all. There are further advantages to gain by the vomiting act which the skilled physician will be glad to take into the bargain, namely:

"(a) The abdominal aorta being compressed by the

muscular action of the *prelum abdominale* during this act, the brains will receive a number of rich waves of arterial blood—a fact that, under the circumstances and for many an obvious reason, can not be too highly appreciated.

“(b) The liver and the lower and upper *venae cavae* will also have to disgorge their stagnant contents of blood and have them shipped to the heart. This last organ, expanded by the full waves of venous and portal blood forced into it, will soon be aroused to, and resume its double function of suction and force pump.

“(c) The intumesced spleen will certainly be depleted.

“(d) And besides, and above all this, the *ipecacuanha*, which is to be applied for the purpose under consideration here, is certainly known to every practitioner to be a most energetic tonic on the vascular system and bowels, acting, as it is, on their muscular strata. By this potentiary virtue of this remedy, the intra-vascular pressure will soon increase, the *kidneys and sudoriferous glands will act and the system will COOL DOWN*.

“The next indication is to protect, by local appliances, from decay and getting virulent, such exudations as appear on accessible surfaces.

“For this purpose I prescribe, *e. g.*, in scarlet, measles, variola and other exanthemata: Merc. sublim. corros. gr. L, Spir. vin. rectific., Glycerin., Aq. destill. 4 oz. each. Of this solution three to four tablespoonfuls are to be poured out on a saucer, and, by means of a barber’s brush, applied all over the body, care to be taken of the apertures. This is to be repeated three to four times in the twenty-four hours. I never had to regret the application of this powerful wash.

“For the throat in Diphtheritis I prescribe: Chloral. Hydr. 1 dr., Aq. destill. 2 oz., Glycerin. 1 oz.

“To be applied to the throat by means of a probang—not a brush—every hour at least.

“Or, better yet, Rp. Acid. tannic. gr. viij.

Salicyl. Sod. scrup. ij.

Bibor. Sod. gr. x.

Sacch. Albi. oz. j.

“A pinch of this powder to be given every hour or oftener.

“The last—and, in fact, the least—indication is: to regulate and keep up the heart action. This purpose is

reached by the administration of some cinchona preparation, say, quinine or a decoction of the bark in wine, to be given in the intervals between the vomitions, when the action of the remedy will be found to be *startlingly prompt*, for the obvious reason of its being *readily absorbed* and carried to the blood."

Now, true as it is, that the therapeutics presently *en vogue* for the feverish diseases be the best we ever had, it is none the less true that no practitioner of good sense would take the risk of maintaining that it is the best *we want* or *we are ever to have*.

If Dr. K.'s sketch of the Pathology and Therapeutics of the Feverish Diseases contains a nucleus of truth (as it probably does), it is sure to give the first impulse toward a radical reform in this branch of medicine.

All that is required to corroborate the practical value of Dr. K.'s theories is to have them widely disseminated and fairly and persistently tried at the sick-bed. There is certainly no risk in applying this method of treatment.

[The paper will soon be published in full, of which we have only given a comparatively meager outline, and can be procured by addressing him at his residence.—REP.]

SELECTIONS.

Hints Upon the Treatment of Paralysis in Early Life.

BY HENRY G. DAVIS, M. D.

I WILL not attempt to discuss the various causes of this particular affection, or to rehearse in detail its symptoms, mode of attack, parts most liable to suffer, or its special pathology. Such a course would be foreign to my purpose, as my intention is merely to give some hints in regard to the treatment of that class of paralytic troubles that are in the majority of cases purely functional when they present themselves for treatment. In using the term "functional paralysis" that condition only is meant where the paralysis remains after the cause is apparently removed.

Before proceeding further allow me to draw attention to a marked difference in the tendency to recovery un-

aided by treatment between adults and infants when similarly attacked with paralysis of one or more limbs. This difference is not recognized, yet it is so marked in our experience that it very materially controls our special course of treatment.

An adult paralyzed, when the cause is removed, begins to use his muscles in accordance with his former habit, and his recovery may be rapid. On the other hand, if an infant becomes afflicted in a similar manner, it is very seldom that it recovers the use of all the muscles affected. The reason why there is this difference appears to be this: The adult *before* his attack has a perfect use of his muscles; he has formed the habit of moving certain muscles for the accomplishment of certain purposes; this is so much a habit that he is not conscious of exercising any act of volition. This habit has been so confirmed by constant exercise previously that when he is ready to make a trial of his muscles they are brought into action in the same order and in the same manner in which they had been trained before his paralysis. The force of habit controls his efforts, and he attempts to move his limbs as formerly. In the child, however, a very different state exists; in his efforts he is neither guided by his reason nor by the force of habit. He is not capable of making any systematic movements of the paralyzed muscles from habit or reason.

In the paralysis of infants the attack is at so early an age that they have not formed any habit in locomotion. Hence, when the cause is removed, they are like infants, but without any nervous influence, as it were, compelling them to move their limbs. In these cases the patient should be put under a regular system of education, training him to direct through the will the nervous influence to particular muscles. The patient has lost the way or the process by which he can by an act of the will move any of the affected muscles.

It is for the purpose of calling the attention of the profession to this particular point that I am induced to offer a few remarks.

The mode of treatment which I have been led to adopt is very simple, and my experience in the treatment of a number of cases has taught me to place confidence in its efficiency.

The first effort should be to associate the mind of the

patient with some particular action of the paralyzed limb, and concentrate the will upon the movement of some particular muscle. These movements must be made first by the surgeon's assistance, the mind of the patient being for the time kept constantly directed to the parts. This can be more readily accomplished if the corresponding motions of a sound limb can be made at the same time, associating the movements of the muscles of the paralyzed limb with those of the well one. Let us take, as an example, a child that has been paralyzed for some time in one of the lower limbs; there is absolutely no power whatever on the part of the little one to move the affected member. The child is placed in front of the operator, the well limb is exposed to the knee, and the little one is shown how the patella can be made to move by his making certain efforts. When he has been so trained that he can always contract the muscles of the well limb that are inserted into the patella, and has received the idea that it is done by an act of his own will, then the paralyzed limb can be placed by its side, and his attention directed to a similar and simultaneous effort to draw up the patella, while at the time of his effort the surgeon raises the limb in unison with the other. This should be repeated until the muscles of both limbs will contract simultaneously and by the action of the will of the patient.

This voluntary action of a muscle paralyzed encourages and aids its growth much more rapidly than any mode of simple passive exercise. It is effected by the same law that increases the size and power of a muscle that is in a normal condition; namely, a natural exercise or use of it. As I have before intimated, if both the lower limbs are similarly affected, the difficulties in the way of a speedy cure are somewhat greater, requiring more time and patience, but the principle of treatment remains the same.

The length of time required to effect a cure varies, of course, with the circumstances attending each particular case, as the age of the patient, the length of time since the attack, the aptitude of the child to follow instructions, the success of the surgeon in controlling his attention. The time required to restore a useful limb will also depend upon the amount of atrophy of the muscles. It matters not to what extent muscles have wasted, as this does not prevent a recovery. If it can be perceived that the muscles are influenced in the least by the will of the

patient in his efforts a restoration is quite certain. A medical friend in New York stated to me a case of paralysis of the deltoid muscle occurring in early childhood, which serves to illustrate this in rather a remarkable degree, and it has been corroborated in my own practice. The patient had suffered, as has been said, from early childhood. During this time the loss of motion was constant. There was not the slightest trace of muscular substance; there was nothing but the integuments covering the locality where the muscle should have been. By treatment the muscle was fully restored.

So confident am I of the success of this particular method of treatment of functional paralysis by the education of the will that I think it can be fairly assumed that if it fail, after a persistent, patient and systematic trial, there must be some organic lesion, either of the nerves supplying the muscle of the part or of one of the nervous centers.

This was the condition of a boy, nine years of age, who came under my care for paralysis of the right lower limb that had existed since infancy. In this case not the slightest connection could be found between the brain and the paralyzed limb, not even by electricity or strychnia. This case is the only one in which I have failed of producing a favorable result. Electricity causes contraction of the muscles without the influence of the will. If the will is not educated to send nervous influence from the brain the patient remains the same so far as a voluntary use of the muscles is concerned. Friction causes a flow of blood to the part, and thus increases nutrition, but it is in a great measure of the cellular substance and not of the muscular fiber.

Unless the connection between the will and brain of the patient is established and the muscles respond to the will, what possible ultimate benefit can be expected when the electric current is stopped or passive rubbing ceases?

As soon as these unnatural stimulants cease there is a tendency to retrogression, unless *during the process* the lost connection of the brain or will with the muscles is restored. By enabling the patient to send the nervous influence to a muscle, and thus exercise it, the fiber of the muscle is increased much more rapidly than the cellular tissue.

In order to illustrate this point more fully I may be per-

mitted to refer to a case, at the same time taking advantage of the opportunity to go somewhat minutely into the method of treatment employed in the case: A boy, four years of age, was placed under my care, who was paralyzed in the right lower limb when eighteen months old, at a time of life when the correct habit of walking had not been fully formed. He had no use of the muscles of this limb, except a slight power over the toes, which is not an unusual feature in these cases. As far as an ability to make any co-ordinated motions, such as are to be noticed in the complex effort of walking, there was none whatever. The muscles and nerves were there, yet from the entire neglect and disuse of them for the long period mentioned the brain had practically ceased to regard them as a part of the system. I seated him in a chair and went through with a systematic course of training in the manner before detailed.

The flexors and extensors were first operated upon, and the movements were made in common with similar movements of the sound limb, the attention of the patient being directed at the same time toward making an effort to aid the action of the paralyzed muscles. After considerable trouble I succeeded in effecting a movement of the rectus femoris, so that it plainly twitched under the eye. Subsequently I arrived at a stage in the treatment which warranted me in allowing him to stand and bear the weight of his body, cautiously, upon the unsound limb. While in this position he soon became able to flex and extend the limb, and take his first lesson in self-progression. He finally became able, by dint of a considerable amount of voluntary effort, to take a few steps. This he could do tolerably well (with the aid of a crutch, of course) as long as his whole, undivided attention was directed to the proper performance of the act; but if his mind were drawn off, even temporarily, from its purpose, although he might continue the attempt at locomotion, the paralyzed limb would remain motionless. This was a uniform result, and by watching his countenance it could be known when he would fail to move his limb. This result is mentioned to show that although he had acquired the power he had not the habit.

This shows in a marked degree how essential is the influence of the mind in restoring motion to paralyzed muscles. The sequel of this case was very satisfactory,

and serves to illustrate the necessity of long-continued and persistent education in order to confirm the habit, until it becomes, as it were, involuntary. When such a habit of walking is formed in the child he can safely be said to be cured.

As an encouragement to the effort of educating the will to control properly the muscles in these cases, I may state that a child, after paralysis, if left to himself, will generally, nay, almost unavoidably, acquire an awkward habit of walking, which he will probably retain through life.

If a child recovering so as to be able to stand upon one limb, with his hands upon a chair, is noticed, when he wishes to move he pushes the chair, and then hops upon the well limb, dragging the other. If anything catches the sole of his shoe in this effort, so that he can not drag his limb, if he is ingenious he will lift the limb by the pelvis, so as to overcome the obstacle. Then, as soon as he has found out how to bring the knee back of the center, as in using an artificial limb, he will begin to use it for walking; and this style of locomotion he may retain through life, when, if he had been properly trained, he might have recovered the ordinary grace of movement. In these cases there is not absence of all connection between the brain and the paralyzed muscles, but a want of knowledge of how to affect them, or how to communicate with the muscles. The great difficulty, after all, is to find or continue some movement or process by which the patient shall bring his will to act upon the paralyzed muscles. The function of the brain is restored apparently in these cases, but knows not how to use its power.

In certain cases of paralysis a deformity follows by the contraction of some muscles. In these cases the paralysis is overcome when the limb is restored to its normal position. A boy came to me from Connecticut in this condition, who recovered the use of his muscles as soon as the deformity was remedied. A young lady came to me from Iowa, aged sixteen, with dislocation of the femur upon the dorsum of the ilium, turning her foot so that she walked upon the side where it was fixed. She had lost all use of those muscles that were necessarily unemployed. After the hip was reduced and the foot brought into place she recovered entirely the use of the muscles of the foot and a perfect control of the limb. I could add any number of illustrations from patients treated, but let these suffice.—*Boston Medical and Surgical Journal.*

Absorption by Granulations.

THE idea that granulations are good absorbing surfaces is one which few at the present day would be disposed to entertain. For it has been generally supposed that, as soon as a wound had granulated, the patient was free from any further danger of absorption of noxious materials; and those cases in which symptoms of blood-poisoning supervened after this period, were supposed to have received the poison before granulation was complete. And yet, several facts have been for some time known which demonstrate that some substances, at least, may be introduced into the circulation in this way. Thus Bonnet, in 1852 (*Gazette Medicale de Paris*), confirmed the observations previously made as to the absorption of strychnine by granulating wounds; and he further pointed out that the same was the case with iodine, more especially when applied in the form of an ointment.

The paper just published on this subject by Dr. Hack (*Deutsche Zeitschrift für Chirurgie*) furnishes many new facts of the greatest interest and importance. He was led to his investigation by the following circumstance. A patient was admitted, under the care of Professor Maas, of Freiburg, with a very large prostatic abscess, which had burst into the rectum. This was followed by pyæmic abscesses in various parts of the body; the patient soon became extremely weak, and it was found impossible to administer food or stimulants by the mouth. Under these circumstances, Professor Maas determined to introduce stimulants into the abscess cavities, in the hope that they might be absorbed. Camphor-wine was accordingly, from time to time, injected into several of the abscesses; and, a few minutes after each injection, the marked improvement in the pulse showed that absorption had to some extent taken place. In a few days the patient regained his appetite, and was ultimately completely restored.

The chief questions which Dr. Hack has attempted to answer, are: What is the absorptive power of granulating wounds at different periods, as compared with that of freshly cut surfaces? Does the form in which the substance is applied, or the manner in which the wound has been treated, affect the result? A large piece of skin having been removed from the back of a dog, a suitable

dressing was applied; and in four days, granulation being then complete, this wound was tested as to its absorbing power. Two classes of substances were used, viz: such as could be found in the urine—as ferrocyanide of potassium, salicylic acid, sulph-indigotate of soda; and such as showed their presence by the production of constitutional effects—as pilocarpin and apomorphia. Applied in the form of solution to a sore four days old, treated with water-dressing, the ferrocyanide appeared in the urine in seventeen to twenty minutes; while the same substance, applied in solution to a freshly cut surface, was detected in fifteen minutes. When used, however, in the form of ointment, it was absorbed much more rapidly; and this was still more marked when the salt was sprinkled over the wound in the form of a powder. A similar result was obtained when pilocarpin was employed, the ointment and powder producing constitutional effects more quickly than when applied in the same quantity to a freshly cut surface of the same size. Apomorphia was absorbed from wounds thus treated only during the twelve hours immediately after their infliction. As the wounds became older, it was found that, though the first traces of absorption of the ferrocyanide could still be detected about the same period as in those four days old, yet no marked precipitate could be obtained in the urine till some minutes later. That this diminution in the quantity absorbed in a given time depended on the smaller extent of absorbing surface, and not on any alteration in the granulations, was shown by comparing old wounds with portions of more recent wounds of the same size. Chloride of zinc, applied in an eight per cent. solution, at once arrested absorption by the granulations. This was also very much diminished by the use of alcohol. Sloughs, caused by the application of strong carbolic acid, absorbed with extreme readiness. Glycerine also aided absorption. Where the wounds were treated antiseptically, very remarkable results were obtained. Granulating wounds thus treated absorbed both more rapidly and in larger amount than even freshly cut surfaces; and substances such as apomorphia, which could not be taken up by wounds treated by water-dressing, produced their physiological effects with great rapidity in this instance. Even after the removal of these dressings, about two days elapsed before the granulations

assumed the characters of those treated from the first with water-dressings.

The importance of these facts can not well be over-rated; and it is to be hoped that, attention being thus directed to this subject, more exhaustive investigations will soon be forthcoming. More especially is it necessary to repeat these experiments with putrid substances; for, if it be the fact that granulating wounds, treated antiseptically, can absorb putrid materials more readily than freshly cut surfaces, the practice which some adopt of only treating such cases as compound fractures antiseptically till granulation is established, and of then applying septic dressings, must be dangerous. Dr. Hack, indeed, states that he has observed that erysipelas is especially apt to attack granulating wounds which have been treated antiseptically, if the antiseptic dressings be left off while these wounds are still of large size.—*British Med. Journal*, January 3, 1880.

The Medico-Legal Society.

STATED MEETING, MARCH 3, 1880. DR. C. S. WOOD, PRESIDENT, IN THE CHAIR.

THE PROBLEMS OF INSANITY.

DR. GEORGE M. BEARD read a paper on the above subject, in which he considered first, the causes of insanity, and of its increasing prevalence in modern times; second, difficulties in the diagnosis; third, the probabilities of cure; fourth, defects of the present system of treatment in Europe and America; and fifth, the future of insanity and influences that may check the rate of increase. The following is a brief abstract: The speaker said that it was one of the paradoxes of astronomy that the constitution of the sun was best studied when that orb was in an eclipse. It was one of the paradoxes of psychology that the mind was best studied when it was eclipsed by disease. Through insanity we learned of sanity. Pathology was the aid of psychology. Dr. Beard thought that psychology was destined to be the chief of the sciences, and that its study was greatly aided by the study of insanity. The first problem of insanity was how to define it. Insanity is a disease of the brain, in which mental co-ordination was seriously impaired. There might be disease of the

brain without mental inco-ordination, but in all cases of insanity disease of the brain was implied. The word mind was used in a broad and generous sense. There was no mathematical dividing-line between sanity and insanity. Sanity shades into insanity like twilight into night, and the different forms and subdivisions shade into each other like the colors of the rainbow. There were two general divisions of insanity—intellectual and emotional. Delusions were not necessary to insanity. In very many cases there were no delusions, simply emotional disturbances. The ideas implied by the terms moral insanity and impulsive insanity were correct and sound. In some cases patients afflicted with what was called moral insanity, developed into forms of insanity in which there were delusions. Insanity with delusions and insanity without delusions ran together constantly, and were intermingled in different cases. The term moral insanity might be an unfortunate one, but the idea was scientific and demonstrable.

A second problem was, why was insanity increasing in frequency? Insanity was a barometer of modern civilization. Though existing in all recorded ages, and among all peoples, and known under various and inconsistent names and superstitions, yet it was rare and had always been rare with the savage, the barbarian, and the partly enlightened. There was no race, no climate, no institution, no environment that could make insanity common save when united with and reinforced by brain work and indoor life. Besides those general differences, there were features of the modern and pre-eminently of the nineteenth century civilization that were peculiar to it—unprecedented in history—the printing press, the telegraph, steam power, the sciences and the mental activity of woman. Bringing arithmetic to aid us in our comparative estimate, it seemed quite within the facts to aver that the modern brain must carry and endure tenfold more than the ancient, and without a correlated increase of carrying and bearing force. Insanity was increasing more among the poorer than the higher classes. Civilization ground hardest on the poor, depriving them of the healthful influences of barbarism without the compensating advantages that the higher classes enjoyed. Dr. Beard stated that he had reached that conclusion from years of study of this special subject. A number of years before, while studying the

subject of stimulants and narcotics, together with the drinking customs of different nations, he had occasion to study very thoroughly the customs of different nations, as far as could be obtained from accessible sources, works of travels and conversations with travelers, and, making due allowance for sources of error, there was an entire agreement with regard to the variety of allied nervous diseases among savages and barbarians. Quite recently he had studied the subject himself among thousands of negroes upon the island of Beaufort, between Savannah and Charleston. These negroes had been for years isolated, had not advanced a great deal beyond their original ancestors in Africa, and furnished an excellent opportunity for him to study the subject himself. He had investigated the psychology of those people carefully, by the aid of persons who, for years, had lived among them and employed them, and diseases such as neurasthenia, hay fever, symptoms of spinal irritation, and insomnia, to any extent, were not known. They drank to excess, but there was no inebriety.

Poverty made us insane, and insanity made us poor. In England the increase of insanity among the poor during the last forty years has been 300 per cent., while the population increased in the same time only forty-five per cent. But statistics relating to insanity were crammed with elements of error.

The main defects in this present treatment of the insane in Europe and America were these: First, neglect of the early stages. The insane should be treated before they were insane. The practical problem of the future was to educate physicians in the study of insanity so that they should know premonitory symptoms and treat patients in many instances without taking them to an asylum. The time would come when physicians would treat insanity just as much as they treated typhoid fever; would be able to diagnosticate it in the early stages; would be able to cure it; and, what was still better, would be able to prevent it by treating the conditions which lead to it. In a number of cases under his own observation, he had thought of referring the patients to an asylum, but satisfactory results have been obtained by treatment at home. Each case in that respect must be judged by itself. A number of his medical friends, general practitioners, he

knew were treating certain forms of insanity very successfully in that way.

The solution of that problem was already going on. Patients in the early and premonitory symptoms were constantly and successfully treated both by neurologists and general practitioners. Even those who were positively insane were treated successfully in that way at home. Second, the error was in depending on simple isolation in asylums without positive medication. The same mistake had been made in inebriate asylums, but was being corrected in them. The third evil was in the use of narcotics and sleep-forcing agents. The fourth error was the crowding together of curable and incurable cases. Three-fourths of the cases in asylums were cured in the first nine months. It was one of the facts of human progress that reforms usually came from outside of institutions that needed to be reformed. Long ago, John Bright, in the House of Commons, declared that all the reforms of English law in favor of justice and mercy had been opposed by the judges. The diminished proportion of cures for the insane in asylums in recent years was explained partly by this, that hereditary influences were every year growing stronger. Hereditary disease of all kinds was harder to cure and more likely to relapse than any accidental or primary nervous disease. The future of insanity was a part of the future of sociology. Hundreds of millions of people were to occupy this continent, and among them were to be hundreds of thousands of lunatics. The late president of the British Psychological Association predicted that if insanity were to increase in England and Wales as it has increased during the last forty years, there would be 1,250,000 lunatics upon that island in the year 1912.

But the relative increase of insanity might probably be checked somewhat in all civilized countries. First, by inventions which diminished the frictions of modern life. Types of those inventions were the telephone, the type-writer, palace cars, and elevated railways in great cities. The inventions of thirty or forty years ago, the telegraph and the like, all tended to increase the friction of life. Second, by the development of the intellect at the expense of the emotions. Insanity was caused not so much by intellectual as emotional activity. Third, improved system of education, primary and university.

The whole system of mental training for the young must be and would be revolutionized. Fourth, the successful treatment of the nervous diseases and conditions that lead to insanity, as nervous exhaustion, cerebral congestions, hysteria, hypochondria, and the like. In that respect great progress was being and had been made. There was also going on improvement in mental hygiene. The better classes of the American people were to-day growing stronger and larger, and now presented some of the best specimens of physique in the world. The criticisms on the defects of the treatment of the insane applied to all countries more or less, but England had the great advantage of supervision of all asylums, public and private, by a central authority, composed partly of physicians, partly of lawyers, and partly of business men. For forty years that commission had been in operation in England, and had given satisfaction. A bill to increase the number and enlarge the powers of the New York State Board of Charities, so that it might fulfill the duties assigned to the English Lunacy Commission, was before the Legislature. It ought to be introduced not only in this State, but in other States. It would not solve all the problems of lunacy, but it would be one step in the direction of the solution of some of them. Lunacy reform would not be accomplished by leaps or jumps, but by slow increments.

During the discussion that followed the reading of the paper, there was considerable dissent expressed from some of the views contained in it, and it was voted to call a special meeting for the thorough discussion of the entire subject.

Trommer's Malt Extract.

BY W. G. MOORE, M. D.

My observation leads me to believe that the profession generally is too ready with testimonials in favor of new remedies that are put upon the market. And in many cases, I fear, it amounts to a simple indorsement of what the proprietors say of their virtues. These certificates of merit reach the profession through the columns of the medical journals, and are considered sufficient authority for their use in practice. While too much is often said

concerning the value of many remedies, my personal experience with Trommer's preparations of malt convinces me that they can not be too strongly commended.

Clinical experiment is the crucial test for establishing the therapeutic value of any remedy, and it is upon this test that my opinion of malt extract is founded.

It has been variously combined with digestives, ferruginous preparations, etc., but that with cod liver oil is perhaps its happiest combination; from the fact that in nearly all cases where the oil is indicated, the malt will be a most valuable auxiliary. Another consideration in favor of this combination is, that the disagreeable taste of the oil is masked to a great degree. It will serve my purpose better to give a few cases in which I have prescribed the malt and oil.

CASE I.—Mrs. T. came to consult me in regard to "a general break-down." She was forty-two years old, active, energetic housekeeper, with a large family to care for. In appearance, she was thin, sallow and despondent, with cough and leucorrhœa of two years' duration. A long train of dyspeptic symptoms and obstinate constipation, which she cared nothing about, "as it was *natural* with her." She had no appetite and slept badly. I suspected phthisis, but her family history was exceptionally free from this diathesis, and examination of chest showed the lungs healthy. I regarded the case as one of dyspepsia, with its innumerable symptoms and consequent innutrition. I prescribed extract of malt and cod liver oil at meal times. At the end of a week she returned much improved. I ordered the continuance of the same prescription; and, if further treatment was necessary, to call upon me.

I saw nothing more of her for a month, at the end of which time she came to my office, certainly as much improved as any one could have been in the same length of time. She stated that all of her many ills had vanished, and was inclined to think she had never known the meaning of health before. The constipation was entirely gone, her bowels moving regularly every day. She had gained flesh, was cheerful, and loud in her praises of the remedy.

CASE II.—S. E., a puny little fellow, nine months old, became a patient of mine last November. His father stated that the little boy had been through the "flint mill," and his appearance certainly corroborated the

statement, for he was a perfect type of malnutrition in infancy. He had been bottle-fed and overfed from the day of his birth. His mother stated that milk had never agreed with him, hence they had resorted to farinaceous foods of all kinds. The skin was dry, harsh and wrinkled. He ate enormously, was peevish and fretful, slept badly, and had profuse night-sweats; constipation and diarrhea alternated.

I suggested that he take half his usual amount of food during the day, and prescribed extract of malt and cod liver oil with pepsin. Within a few weeks his appearance formed a striking contrast with his former self. He has remained well up to the present time.

These cases might be multiplied, but I deem it useless, since the malt extracts are now justly coming into daily use, and like the cinchona salts will justify their high reputation in every appropriate case. In short, in all atonic conditions I consider them of the first importance. For without the medium of a good stomach, the treatment of any disease whatever is an up-hill, unsatisfactory process. And in the impaired digestion, which is ever the companion of disease, I know of nothing which comes to the rescue with such efficient aid as Trommer's preparations of malt.

Defibrinated Blood as a Substitute for Extract of Beef.

BY F. E. STEWART, PH. G., M. D., NEW YORK.

"It is the result of centuries of observation and study," says Dr. A. H. Smith, in his article on Rectal Alimentation, "that disease is a burden imposed upon the economy, which can be sustained and ultimately thrown off only by an expenditure of vital energy, and that in increasing, and not in diminishing, vital force, are we furthering the reparative processes of nature." Great prominence is therefore given to supporting, instead of the former reducing method of treating disease. Rapid tissue-waste demands corresponding supply. It is for this reason that restorative and building-up remedies are now so much in vogue. Cod-liver oil, because well fitted for furnishing carbon, is employed to reconstruct tissues of which carbon enters largely as a constituent, as well as for its tonic properties.

But the most exhausting waste in acute cases is of the nitrates, and there is no corresponding article to cod-liver oil for the repair of nitrogenous waste.

Meat as a food, in health, is demanded by the appetite for the supply of waste of nitrates; but in sickness an impaired stomach refuses to digest it. Attempts have therefore been made to present meat by preparation in a form for easy assimilation. Experience, however, proves that these preparations are no substitute for meat, and the numerous extracts and essences of meat flooding the market are but records of many failures.

New Remedies for January, 1880, contains an original communication from Adolph Scheppe, on extract of meat, from which we glean as follows: "*Liebig's Extract*, and the extracts from Montevideo, San Antonio (Texas), Fray Bentos (Uruguay), are made by extraction with cold water, and subsequently heating to the boiling-point. In this way all albumen coagulable by heat, gelatine and fat, are left behind. They, therefore, are not nutriments at all, but must be considered as nervous stimulants, like tea, coffee, chocolate, brandy and similar articles." Then follows an analysis, giving the composition of Liebig's Extract of Beef and a number of other beef preparations extensively advertised. In *Johnson's Fluid Beef* it is found that the want of albumen in the extract is supplied by the addition of powdered meat. There is no advantage, however, in this over beef itself as an article of food, and surely the beef is much cheaper. *Valentine's Meat Juice* "is stated to be made by partly roasting the meat, by which process the albumen coagulates, and obtaining the juice by subjecting to hydraulic pressure. . . . This extract contains no appreciable amount of albumen coagulable by heat; by the process of roasting a minute quantity is peptonized. Compared with Liebig's Extract it is very expensive, the price being double and the strength less than two-thirds." *London Essence of Beef* contains more water and less solid matter than the meat from which prepared. It, therefore, can not claim to be a condensation, and is deficient in many other points. *Mensman's Peptonized Beef* is stated by this authority to contain coagulable albumen and blood. "The presence of coagulable albumen and blood is incompatible with the process of peptonization, since both of these substances are the first to be changed in their nature by the action

of the acid necessary for the successful completion of the process." He also states that tests fail to indicate any appreciable quantity of peptone. The analysis following this statement gives but 5.76 per cent. of solids, altogether, in the preparation, while meat, freed from fat, contains 21.5 per cent. It seems, therefore, that the article is not only misnamed, but is found wanting in other respects.

Beef-tea also has long lost prestige as a dietetic. It has hardly any nutritive value. Albumen is the constituent desired from the beef; it contains the nitrogen. But albumen coagulates at 160° F.; boiling beef in water at 212° F. will not extract the albumen; it only serves to lock it up the tighter. No nutritive value, of any consequence, can, therefore, be imparted to the water in which beef is boiled. This water can not support life. Beef-tea has gone into disrepute along with the extracts and essences: stimulants—little more.

But why can not a sick man digest meat? Is it not because an impaired stomach refuses to break down the organized fiber and to set free the albumen? The raw white of an egg is easily assimilated even when milk is rejected. Why not, then, use meat before it is organized at all, namely, blood? Blood is but meat in a liquid form, every ounce containing as much solid matter as an ounce of meat. If digested and assimilated, there is no reason to suppose that it will not feed the tissues in the same manner as beef. Blood was designed by nature as tissue-food.

But it is argued that blood is disgusting to patients, and few will take the prescription. This is admitted; but the same argument holds good with cod-liver oil. Both can be disguised, however. If defibrinated blood be first dried, afterward it can be dissolved in a suitable vehicle to render it palatable. Of several such vehicles subjected to experiment, a mixture of brandy and glycerine seems best. One part of each to four parts of water, in which the desiccated blood is first dissolved, furnished a pleasant mixture. The solution can be made of the same strength as the original blood, and is easily tolerated by the stomach. About a drachm of the powder in each fluid ounce of the finished preparation should be employed.

Blood, as an article of diet, has long been used by the Germans in various ways. Patients who drink it at the abattoirs for wasting diseases are frequently greatly ben-

edited by the practice; and at the various hospitals and public institutions in New York, where it is given *per orem*, there is no hesitancy in the expression that benefit accrues from its use.

The article quaffed at the butcher's shambles is always defibrinated. This is accomplished by stirring and then removing the stringy fibrin. The fibrin in this condition, from its resemblance, is called veins by the unscientific butchers. The blood is then ready for drinking, and is said to taste much like warm fresh milk. Such a small amount of nitrogenous constituents is lost by defibrinization that the value of the blood as a nutrient is not materially lessened.

Prognosis of Valvular Lesions.

PROF. AUSTIN FLINT gives the following aphorisms at the conclusion of a clinical lecture on the above subject, published in the *Medical News and Abstract*:

1. Cardiac murmurs may represent lesions which, if unaccompanied by symptoms referable thereto, enlargement of the heart not coexisting, and the heart-sounds normal, are to be considered as innocuous. The prediction of grave consequences, under these circumstances, is unwarrantable, inasmuch as they may never occur. Such lesions do not claim medical treatment, nor any extraordinary precautions; and it is desirable that the fact of their existence be withheld from patients, if this can be done with propriety.

2. Patients with valvular lesions are liable to suffer from functional disorders of the heart, arising from causes which have no pathological connection with the lesions. It is highly important to recognize, clinically, this accidental coincidence, in order to exercise a correct judgment as to the prognosis and treatment.

3. Various morbid conditions, other than functional disorder of the heart, may be accidentally associated with valvular lesions and more or less cardiac enlargement. These associated morbid conditions may be, in a great measure, responsible for symptoms and effects which seem to denote an advanced stage of the cardiac disease, whereas the latter may occasion but little inconvenience,

provided these accessory co-operating conditions can be removed.

4. Valvular lesions, involving either obstruction or regurgitation, or both combined, and having led to considerable or even great enlargement of the heart, under favorable circumstances, as regards associated morbid conditions, are often well tolerated indefinitely. There is less reason for a hopeful prognosis, in respect of tolerance, when there is considerable aortic insufficiency, than in cases of aortic obstructive lesions, and those which occasion obstruction or regurgitation at the mitral orifice. The danger of sudden death from aortic regurgitation is lessened by coexisting mitral insufficiency.

5. In cases of orthopnea, a general dropsy dependent on mitral obstructive or regurgitant lesions and enlargement of the heart, digitalis and active hydrogogue purgation repeated from time to time, not only often afford notable relief, but there is reason to believe that life is sometimes thereby much prolonged.

Oleomargarine.

THE recently published correspondence with regard to the manufacture of the so-called oleomargarine, oleomargarine butter, butterine, or bosch butter, in the United States, has created no little disgust in England, and has been commented on by many of our daily contemporaries. The "delicacy" in question is well known to English chemists. Accurate methods for its detection and quantitative estimation are known, and there is no difficulty in obtaining convictions against tradesmen who sell it as genuine butter. Nevertheless, it is startling to read of the gigantic scale on which the manufacture has been carried on in America. One company alone, working under the patent of M. Mege, of Nancy, converted in 1876-7, as much as 500,000 lbs. of fat into the so-called butter every week. The State of New York now prohibits the sale of this article as butter; and this prohibition, coupled with the reduced price of the genuine article, has diminished the manufacture greatly. It is still, however, enormous, and there can be no doubt that much of this American sham produce finds its way, directly or indirectly, into this country. The newspaper extracts which are printed

with the official report of Consul-General Archibald, exhibit an amusing conflict of statement and exchange of incivilities between the scientific men engaged in the controversy.

On the one side oleomargarine is lauded as a most excellent and valuable article, equal in dietetic value to all, and superior to most, kinds of genuine butter. It is said to be made exclusively of the caul-fat of the ox, carefully purified and flavored with milk. Its detection, except by chemical analysis, is asserted to be impossible.

On the other hand, the defenders of the dairy allege that oleomargarine is a loathsome and dangerous article, that it is made in part, at least, from the refuse fat of the pork-packing establishments, and from "every variety of vile grease." They give startling microscopic drawings, and make even more alarming statements, as to the probability of the trichina being carried by its means. In fact, the two parties seem to vie with each other in the exaggeration of their statements. The chemical knowledge of the scientific combatants is evidently of the loosest kind, for several glaring absurdities occur in their analyses, and they do not seem in any single case to have determined either the specific gravities or the melting points of the samples they examined.

The truth in regard to the whole matter may be very simply stated. Oleomargarine, or whatever we may choose to call it, made from beef-fat, is not a noxious or dangerous substance, and there is no reason why it should not be eaten, if people, knowing what it is, choose to eat it. There is, however, an obvious risk that "vile grease" may be used by the manufacturer as a cheap substitute for caul-fat. The manufacture should, therefore, if carried on at all, be carried on under inspection. We are not inclined, however, to attach much importance to the trichina story. Certainly no English analyst would venture to certify that butterine was an adulteration dangerous to health.

On the other hand, the selling of animal fat as butter, or the mixing of it with butter, without full and intelligible description, is clearly a fraud, and as such should be punished with rigour. When properly made and described, the sale of such articles should not, in our judgment, be prohibited. The price of good butter is becom-

ing, in many places, so extravagant as to place this valuable article of food almost out of reach of the masses. —*Lancet*, of London, March 6.

MICROSCOPY.

Some "Expert" Evidence.

IN the course of the recent trial of the Rev. Mr. Hayden, in Connecticut, a large number of scientific gentlemen were called upon for their testimony. Some of the evidence that was thus brought to bear is of an interesting character, not only as an indication of the value of the microscope in such cases, but also as showing to what extent we can rely upon the results of the experiments of individuals.

We will briefly review the testimony that was based upon microscopical examinations.

The microscope was employed for two purposes on this trial: for the examination of specimens of white arsenic, and for the detection of blood corpuscles.

In the study of arsenic crystals and the various kinds of arsenic in the market, Professor E. S. Dana had spent several months, and his testimony was of a satisfactory nature throughout. Samples of arsenic from different manufactories vary in character more or less, and this is also true of the products from the same factory at different times. The peculiarities are to be found in the proportionate number of crystals, amorphous particles and dust; in the size of the crystals and masses, and in the general appearance of the specimens, particularly when examined by reflected light, which shows the crystal-faces either dull or polished, or, when they have been subjected to the slow action of solvents, striated and marked.

Among the causes which prevent uniformity in the products of the same factory at different times, may be mentioned the rapidity of crystallization—which varies with the temperature—the larger crystals forming most slowly; the density of the vapor in the condensing chambers; and the presence or absence of foreign matters.

Although it is admitted that the product of a factory varies from time to time, it appears that it is possible to

distinguish the arsenic of different makers with some degree of certainty, and Professor Dana believes that he could certainly identify the brands in his possession known as "Dayton," "Garland," "Welsh" and "Dragon," by microscopical examination.

Many specimens of arsenic were examined by Professor Dana, but we will only refer to a few of them in illustration of the character of his observations. The arsenic from the Tavestock works, which he visited, contains never less than one-half its bulk of minute, but perfect, octohedral crystals. The "Garland" or glass-arsenic contains no crystals; hence, when ground it appears as an amorphous powder. By examining fourteen slides of a certain sample, one-third of it was found to consist of distinct crystals, most of them varying in size from $\frac{1}{1000}$ to $\frac{1}{1500}$ of an inch, taking the maximum and minimum diameters. By reflected light the crystals showed an imperfect luster.

Another sample was made up almost exclusively of regular octohedra, which formed nine-tenths, never less than three-fourths, of the entire mass, in size about $\frac{1}{1000}$ "- $\frac{1}{2000}$ ", some as large as $\frac{1}{800}$ "- $\frac{1}{500}$ ", with smooth and brilliant surfaces.

The arsenic that was found in the stomach of the poisoned girl had a yellowish tinge, probably caused by the action of some sulphur compound, which partly changed the oxide into a sulphide. There were no dust-like fragments, or very few; the faces of the crystals showed the peculiar parallel lines and triangular markings or depressions, which are produced by solvent action.

The other gentlemen who touched upon this subject in their testimony did not differ from Professor Dana to any noticeable extent. Professor Brewer's evidence was almost identical.

In closing these remarks about arsenic, we must refer to some photographs of crystals of this substance, kindly sent to us by Dr. T. D. Williams, of Chicago. The photographs show certain characteristics of the samples quite clearly, and any person could readily distinguish the different kinds.

The testimony regarding blood corpuscles is of a less satisfactory character than that which relates to the arsenic.

Professor Wormley, of the University of Pennsylvania; Professor White, of Yale; Dr. Treadwell, of Boston; Dr.

Sanford and Dr. J. J. Woodward were the principal experts on the blood examination.

A most embarrassing error, and one which we would hardly deem possible for a microscopist to fall into, who was familiar with the appearance of blood corpuscles, was made by Professor White. He found an alga upon a stone and mistook it for blood. Further examination enabled him to correct the error; but the fact that the mistake was made shows the necessity of extreme caution in such examinations. One of the most striking statements of all was made by Dr. Treadwell. In one instance he testified, after measuring only four corpuscles (having accidentally lost the others) that ranged from $\frac{1}{2357}$ " to $\frac{1}{3368}$ " in diameter, as follows: "I am quite positive that these were human blood corpuscles, and that they did not belong to the blood of the pig, sheep, goat, horse or cat." In another place, referring to some other examinations, he stated that he had "obtained certain proof of human blood in one instance only" (this was from stains on a knife). Dr. Treadwell was asked this question: "Now, doctor, if you have five specimens of different bloods given you, will you be able to say which are human?" He replied, "Yes, if an honest and competent man prepares the slides for the microscope, and with fresh blood. Then I could give you an answer in a couple of hours." We have not space to give the admirable testimony of Dr. Sanford on this subject, which we regard as perfectly reliable and correct.

This review is based upon the reports of the trial, given by the daily New York papers, which seem to be quite reliable.

Dr. Woodward speaks for himself in the following extracts from a communication with which he has favored us.

Referring to the range and variation in the size of the corpuscles, Dr. Woodward says:

"What I actually testified as to these points, was substantially as follows: That the largest human corpuscle I had ever measured in any human individual, including all ages, was 400-millionths ($\frac{1}{2500}$) of an inch in diameter, the smallest 222-millionths ($\frac{1}{4500}$). I said, however, that I did not for a moment believe that these dimensions represented the extreme limits, for G. Hayem (*Rech. sur l'anatomie normale et path. du Sang*, Paris, 1878, p. 44) has recently affirmed that in chronic anæmic conditions he has measured them as large as 12 or even 14 micromillimeters (the

latter=551-millionths of an inch), and as small as 2.5, or even 2.2 micromillimeters (the latter=86-millionths of an inch). But even taking the limits I had myself measured as the extremes for healthy individuals, the difference in size between the largest and the smallest human blood corpuscle was about as great, relatively, as the difference between the shortest and the tallest adult man; and as in both cases all possible transition forms occur, I held that, by measuring ten, fifty, or a hundred, or even a much larger number of corpuscles, we are no more likely to obtain an average size that will agree with the next set of similar measurements, than we are, by measuring the height of as many men, likely to obtain an average which will agree with the average height of as many more individuals measured elsewhere. It was to this cause, chiefly, that I attributed the considerable differences between the statements as to the average size of human red corpuscles, published by the highest microscopical authorities during the last few years. I said that while many English and American microscopists continued to assume the infallibility of the alleged average size of 312-millionths ($\frac{1}{3200}$) of an inch, propounded by Gulliver in 1848, such able French microscopists as Cornil and Ranvier (*Manuel d' Histologie Pathologique*, Part II., Paris, 1873, p. 498), placed it as low as 7 micromillimeters (*i. e.*, 275-millionths, or $\frac{1}{3636}$ of an inch). The commission of the French Societe de Medecine Legale (*Annales d' Hygiene Publique*, T. 40, 1873, p. 194), composed of Messrs. Miahle, Mayet, Lefort and Cornil, which reported June 9th, 1873, placed it at 7.5 micromillimeters (*i. e.*, 295-millionths, or $\frac{1}{3389}$ of an inch), with which Hayem (p. 43 *op. cit. supra*) and other recent French authorities agree. On the other hand, J. Pelouze and E. Fremy (*Traite de Chimie, etc.*, 3^{me} ed. *entirement refondue*, t. VI., Paris, 1865, p. 492) place the average as high as $\frac{1}{102}$ of a millimeter (*i. e.*, 328-millionths, or $\frac{1}{3048}$ of an inch), while the average usually accepted in Germany, that of Welker (*Zeitscher. fur Rat. Med.*, Bd. XX., 1863, S. 237), is intermediate between the foregoing, viz: 7.74 micromillimeters (*i. e.*, 304-millionths, or $\frac{1}{3289}$ of an inch).

"As for myself, I did not pretend to make any general statement as to the true average size of the human red corpuscles, my experience being that the averages obtained by the most careful measurements of any moder-

ate number of corpuscles differ considerably. As to this I cited the figures I have published (*Amer. Jour. of Med. Sci.*, January, 1875, p. 1; and *Trans. of the Amer. Med. Ass.*, Vol. XXVII., 1876, p. 304), and added that several other averages of measurements of human blood recently made by me, with every possible precaution, also differ from each other considerably (as will be seen below).

"As for the red blood corpuscles of the dog, I testified that I had measured in this animal single corpuscles as large as the largest I have ever myself measured in human blood; others, as small as the smallest in human blood; and every possible transition between. Here, too, in taking averages I had arrived at variable results, as Gulliver himself did long ago. I explicitly stated that the general average of all the measurements that I ever recorded for the dog, was somewhat smaller than the average of all I had recorded for man. Yet, some of the averages I had found for fifty or a hundred, or even more, canine corpuscles were larger than the smaller averages obtained for human blood; indeed, occasionally rivaled the larger. I mentioned further that I agreed with L'Perier (*Bull. des Travaux de la Soc. de Pharm. de Bordeaux*. 1877, p. 282 *et seq.*), that the blood of quite young dogs (up to a month or two old) more frequently contained very large corpuscles, and gave averages equal to those obtained from human blood, than was the case with older animals. I had, since the trial commenced, mounted several slides of the blood of a pup three weeks old, in which corpuscles measuring 400-millionths ($\frac{1}{2500}$) of an inch in diameter were by no means rare. (I may add that I have these slides, and will take pleasure in showing such corpuscles to any competent microscopist.) Fifty corpuscles on one of these slides gave an average of 326-millionths of an inch; forty corpuscles on a slide from another pup of the same age, gave an average of 320-millionths of an inch; while twenty corpuscles from the blood of a full-grown dog gave an average of but 300-millionths of an inch. Measured with the same instruments, fifty corpuscles of my own blood gave an average of 324-millionths; forty from another individual gave an average of 327-millionths; twenty from another gave an average of 316-millionths. I added that all these measurements were made with a new Zeiss homogeneous immersion $\frac{1}{18}$ and a cobweb micrometer, the power being such that each division of the

micrometer-wheel equaled $\frac{1}{750000}$ of an inch. Every corpuscle in the group selected was measured, each being first brought to the center of the field for the purpose, and those corpuscles which appeared to be other than perfectly spherical, were measured in the long and short diameters, and the mean taken. In short, every known precaution was employed to secure accuracy.

"In view of all the foregoing considerations, I did not think the microscopist is warranted, in attempting to distinguish, on oath, between human and canine blood, even on preparations carefully made from fresh blood. If he makes a supposition based on the average size of fifty or a hundred corpuscles, he will no doubt often come out right, but he will also occasionally come out entirely wrong; and the difficulties in the case of corpuscles soaked out from dried stains, are of course still greater.

San Francisco Microscopical Society.

THE annual meeting of the San Francisco Microscopical Society was held at the Society's Room, 120 Sutter Street, February 5th, 1880. An unusual number of members was present, and the discussions evinced a determination to make the incoming year more interesting and beneficial to the Society and microscopy than any preceding one. The remarks and offers of assistance from members proved that the old-time energy had not left the Society's members and that its friends and workers are again coming to "the front."

INTERESTING SPECIMENS.

Notwithstanding that the principal business was the election of officers, other discussions took precedence. Mr. Hyde sent specimens of some large barnacles taken from a vessel just arrived in port, after a long voyage from Ceylon, her planks so much covered with them that a powerful tug-boat had great difficulty in bringing her in through the Golden Gate. They were left for future examination. Mr. Hanks exhibited a specimen of *Trichinæ Spiralis*, in the muscle of a boy who died with the disease (*Trichinosis*) near Salem, Oregon. It was given to Dr. S. M. Mouser, to be prepared for examination. W. W. Hanks also presented a donation of supposed diatomaceous earth, from D. W. Grant, Esq., found in Pacheco

Pass, California; also left for future examination. C. W. Banks presented the Society a manuscript catalogue (bound in four volumes) of the books in the Society's Library. At his own expense the donor employed a person for several months to complete this work. The catalogue not only contains a list of books, but of authors, and the subjects of which they treat. The thanks of the Society were expressed and tendered him for the generous contribution. The Treasurer's report showed the finances to be in fair condition, yet desiring improvement for future operations.

The Librarian reported that the Library consisted of 500 volumes of selected scientific works, and was, without dispute, the best collection of its kind in the State. The cabinet contained about 4500 slides of mounted specimens of nearly every material and almost every subject known to science. The following persons were elected officers of the Society for the ensuing year: C. Mason Kinne, President; William Morris, Vice-President; Charles H. Denison, Recording Secretary (re-elected); Chas. W. Banks, Corresponding Secretary (re-elected); G. L. Murdock, Treasurer (re-elected.)

Human Filariæ and Mosquitos.

THE new investigations of Dr. Manson, communicated to the Quekett Club last week, appear to afford positive proof of a singular habit on the part of the filariæ. These microscopic worms periodically pass in and out of the circulation. Dr. Manson gives a table showing the hours of the day and night at which they are either present or absent in the blood. The worms are remarkably punctual in keeping to their appointed times. The evening inrush to the circulation commences about half-past seven, the overcrowding attaining its maximum at midnight.

Into the clinical bearings of the subject it will be time to enter when the remarkable evidence brought forward by Dr. Manson has been fully published in the Transactions of the Club. In addition to some introductory remarks by himself, the President read brief communications on the subject of filariæ from Drs. Somerville, Mortimer-Granville, J. Bancroft, J. L. Paterson, of Bahia, and others.

The meeting was well attended, and in the course of the discussion which followed, Dr. Stephen Mackenzie stated that he had at present under his care, in the London Hospital, a patient from Calcutta, with chyluria.

Although Dr. Lewis had found filariæ in the blood of this man in India, Dr. Mackenzie's efforts to find the filariæ had at present been unattended with success. The interest of the various papers was much increased by the exhibitions of drawings and specimens of the filariæ in all the stages of growth hitherto observed. Numerous infested mosquitos were also shown.—*Lancet*.

THE statement is going the rounds of the medical press that Professors Klebs and Tommasi have discovered the real cause of intermittent fever. It is a small rod-shaped fungus, which they have christened *bacillus malariae*.

These investigators spent several weeks in the *agro Romano*, which is notorious for the prevalence of intermittent fevers. Upon making microscopic examinations of the lower strata of the air and the soil, they found numerous movable, shining spores of a longish-oval shape. The fungus could be artificially generated in various kinds of soil, and when introduced under the skin of healthy dogs, caused fever which ran the regular typical course. We are awaiting further developments; in the meantime, what will the "cryptogam idiots" say to the "bacteria fanatics?"—J. B. M., in *Medical Herald*.

GLEANINGS.

HORLICK'S FOOD.—We recently used "Horlick's Food" in several cases of infant diarrhea and mal-nutrition of children, with results that prove it to be a perfect infants' food, and made in full accordance with the laws governing assimilation in early life. There are, perhaps, few conditions that call for more careful judgment than the substitution of some article of diet in cases of deficient breast-milk. Preparations are still flooding the market, claiming to be properly adapted to the infant stomach, which nevertheless contain more or less starch—a detrimental ingredient usually, and one which seldom fails to disorder the digestion, and cause wasting and diarrhea.

Horlick's Food is entirely free from starch, the flour having been changed into dextrine and grape sugar. This Food has long borne a high name, and we take pleasure in adding our testimony to that of so many physicians throughout the country as to its excellent digestive and assimilative properties. It is recommended in dyspepsia of adults, and in all diseases where digestion has been impaired.—*San Francisco Western Lancet*.

DISTINCTIONS BETWEEN CROUP AND DIPHTHERIA.—That croup and diphtheria are distinct diseases, Dr. W. H. Day (*Medical Press and Circular*) maintains, and he points out the following distinction:

We constantly meet with genuine croup, of an acute and local inflammatory character, leading to the well-known false membrane in the trachea and larynx, as described by the old-fashioned authorities. It seems impossible that we can mistake this true croup (which we have been in the habit of meeting with all our lives) for the peculiar membranous inflammation of the trachea, sometimes seen in diphtheria. It is well to glance at some remarkable points of difference in the two affections.

1. True croup is prone to attack the healthiest children, and in districts where diphtheria does not prevail.

2. True croup is apt to come on very suddenly, and in cases of recovery the general health is rapidly re-established, as compared with diphtheria.

3. In diphtheritic croup the disease is of a well-marked character, and is always accompanied by great depression and nervous symptoms.

4. Croup is a local disease; diphtheria is a constitutional affection, in which the kidneys and intestines may be involved. Croup is neither infectious nor contagious; diphtheria is both.

5. The cases that recover from diphtheritic croup are few; and the convalescence is not only very slow and tedious, but the throat affection is usually preceded by a characteristic membrane on the palate, and the prostration is always great. Partial loss of voice, fetid breath, swollen neck and glands, diminution of muscular power, paralysis of the muscles of deglutition and albuminuria, are common in diphtheria; but they are not witnessed in inflammatory croup.

6. Between croup and diphtheria there is also another

very important diagnostic difference; diphtheria generally begins in the pharynx, croup in the larynx. The false membrane found in the larynx, in cases of genuine croup, is quite different from the leathery or yellowish-gray exudation found on the tonsils, in the larynx and bronchial tubes, in cases of diphtheria. The pathological differences between croup and diphtheria are open to further contrast. In the early stage of croup there is an increase in the vascularity of the affected membrane, as in severe catarrh, with a trifling amount of inflammatory exudation. This is succeeded by fibrillation of the exuded lymph, which, with the new-formed cellular elements, becomes transformed into the characteristic *false membrane*. Its consistence varies, being in some cases tough, in others soft and amorphous, and easily removed from the mucous membrane beneath. In the larynx and upper part of the trachea, where the inflammation is most acute, the exudation is croupal or membranous, and is very characteristic of true croup, but in the lowest part of the trachea and diverging bronchi there may be nothing more than a scanty superficial layer of mucus.

It is difficult in many cases to draw any line of demarcation between the histological changes occurring in diphtheria and those of croup. In diphtheria, however, the submucous tissue usually becomes more extensively involved, so that the false membrane is much less readily removed. The circulation also often becomes so much interfered with that portions of the tissue lose their vitality and large ash-colored sloughs are formed, which, after removal, leave a considerable loss of substance.

7. If croup were identical with diphtheria, it seems to me that the operation of tracheotomy would rarely succeed; whereas it is often successful when false membrane has blocked up the tracheal tube, and has been removed from time to time after the operation.

TREATMENT OF DELIRIUM TREMENS.—Opium given in large and enormous doses, as was formerly the practice, was conclusively shown by Ware to be pernicious. Sleep is the desired object, but narcosis is not a substance therefore. It is hazardous to induce the latter. But an opiate, in small or moderate doses, is often useful. A quarter of a grain of the sulphate of morphia every four or six hours, or an equivalent of codeia or some other prepara-

tion, is the safe limitation as regards dose and intervals. Alcohol is relied on by many, but opposed by some on the ground of moral considerations. The latter are of little weight. The patient will not be likely to resume the habit which has caused the disease any the more, because alcohol may have conduced to the recovery. In the treatment, alcohol should be given in moderate quantity, and suspended when sleeping occurs. It is indicated especially when the patient is much enfeebled, and the pulse denotes cardiac weakness. The inhalation of chloroform may be tried, especially when the delusions induce extreme terror or violence of delirium. It sometimes is useful, but more frequently it fails. The attempt to produce anæsthesia is often resisted by the patient, and the violence of the delirium is thereby increased. The hydrate of chloral is more easily employed. It sometimes acts like a charm. Proper precautions are to be observed in the use of this remedy. The bromides may be given with much less reserve. They should be fairly tried. Their effect is sometimes excellent and sometimes *nil*. Digitalis is in some cases notably efficacious; it is indicated especially when the heart's action is frequent and weak. It is unnecessary to give this remedy in doses of from half an ounce to an ounce of the tincture, as may be done with safety; half an ounce of the infusion every two or three hours will secure all the benefit to be obtained from it. Antimony is suited to a certain class of cases; namely, those in which the symptoms are violent, and the patient robust, and the action of the heart strong.—*Flint's Clinical Medicine*.

THE TREATMENT OF NEURASTHENIA, OR CHRONIC NERVOUS EXHAUSTION.—In this lecture it will not be possible to enter upon a description of the treatment adapted to special forms of neurasthenia, such as the dyspeptic, the sexual, or other varieties which might be mentioned, and are actually met with in experience; I wish at present to call your attention to the medical treatment of the uncomplicated disorder.

One of the first things needful to be accomplished by medicine is to diminish reflex excitability of the nervous system, especially of the vaso-motor division of the same. For the comfort of the patient, as well as a means for recovery, it is necessary to put out of sight, as far as can be

safely done, undue reflex excitability, especially of the cardiac and vaso-motor nervous apparatuses. Until this is done it will be impossible for the patient to rest as quietly as needful.

As to the medicinal agents which may be employed in these cases, I have found nothing that answers the purpose better than the milder bromides, associated with digitalis, in some such combination as the following:

R_y.—Sodii Bromidi, ʒ vij.
 Acid Bromohyd. (Squibb's Strong), ʒ iij.
 Tr. Digitalis, ʒ iij.
 Bismuth Subnit., ʒ iv.
 Syr. Prun. Virg., ʒ vij.—M.

S.—Shake well before using; one or two teaspoonfuls, before or after meals, in water.

In this prescription, as you will observe, the patient gets a small dose of the bromide of sodium, which is rendered more acceptable to the stomach, if not more useful, by the addition of bromohydric acid, especially in dyspeptic neurasthenias. The value of the prescription is enhanced by the addition of bismuth in some cases. If the acid is of the stronger kind, it should be given in proportionately smaller doses than the weaker. In such a mixture as I have offered I have reason to think partial decomposition of the subnitrate of bismuth occurs, so as to afford, probably, an acid bromide of sodium and of bismuth combined.—Dr. Jewell, in *Chicago Medical Gazette*.

HOW TO APPLY THE HOT WATER VAGINAL DOUCHE.—In the *Chicago Medical Gazette*, Dr. E. C. Dudley says:

The following is designed to impress the importance of strict observance of detail in the application of the douche, since in no other manner will its good effects be realized:

1. It should invariably be given with the patient lying on the back, with the shoulders low, the knees drawn up and the hips elevated on a bed-pan, so that the outlet of the vagina may be above every part of it. Then the vagina will be kept continually overflowing while the douche is being given.
2. It should be given at least twice every day, morning and evening, and generally the length of each application should not be less than twenty minutes.
3. The temperature should be as high as the patient can endure without distress. It may be increased from day to day, from 100° or 105° to 115° or 120° Fahr.
4. Its use,

in the majority of cases, should be continued for months, at least, and sometimes for two or three years. Perseverance is of prime importance.

The sitting posture is especially objectionable, for the reason that it favors pelvic congestion by force of gravity, while the dorsal position utilizes this force during the application of the douche.

A satisfactory substitute for the bed-pan may be made as follows: Place two chairs at the side of an ordinary bed, with space enough between them to admit the lower bucket; place a large pillow at the extreme side of the bed nearest the chairs, spread an ordinary rubber sheet over the pillow, so that one end of the sheet may fall into the bucket below, in the form of a trough. The douche may then be given with the patient's hips resting on the pillow and with one foot on each chair; the water will then find its way along the rubber trough into the bucket below.

RETENTION OF A PESSARY FOR THIRTY YEARS.—Dr. A. A. Smith (*N.Y. Clinical Society*) exhibited a glass pessary, which had been given him by a medical friend living out of New York, with the following history: In 1849 (thirty years ago) it was introduced into a vagina, and had not been once removed until a short time ago. The woman recently fell down-stairs, and subsequently had a bloody vaginal discharge. The physician discovered and removed the pessary, which had become well imbedded in the tissues. It was incrustated with calcareous deposit, and was introduced for uterine displacement years ago—with no advice, according to the woman's statement, regarding its subsequent removal. The pessary was concavo-convex, and about three inches in diameter, with a small opening in its center. To effect its removal, a catheter was passed through this opening and traction made upon it. Dr. Smith called attention to the duty of physicians to impress upon patients the importance of the regular removal of pessaries. Dr. Peabody said he had found a pessary, thickly coated with calcareous material, in making a *post-mortem* examination. He mentioned an instance of the removal of a pessary by Dr. E. K. Henshel, which had been introduced seventeen years before by the latter's father. Dr. Foster said he had cut out, from the vaginal tissues, a pessary which seemed to have been made of iron.

Dr. Smith mentioned the removal of one by Dr. Sayre from the uterine cavity after its retention for ten years, and alluded to another case of prolonged retention of a pessary in the vagina, which finally gave rise to an attack of peritonitis. Dr. Weir remarked that he had removed a glass pessary eight years after its introduction, and asked whether glass pessaries were better borne than others, to which there was no reply.—*N. Y. Med. Journal*.

PROOF OF DEATH.—Those timid beings who are haunted by apprehensions of being buried alive, and who make testamentary provisions against such a contingency, may now take courage, for science has supplied an infallible means of determining whether or not the vital spark has quitted the mortal frame. Electricity enables us to distinguish with absolute certainty between life and death; for, two or three hours after the stoppage of the heart, the whole of the muscles of the body have completely lost the electric excitability. When stimulated by electricity they no longer contract. If, then, when Faradism is applied to the muscles of the limbs and trunk, say five or six hours after supposed death, there be no contractile response, it may be certified with certainty that death has taken place, for no faint, nor trance, nor coma, however deep, can prevent the manifestation of electric muscular contractility. Here there is no possibility of mistake, as there certainly was when the old tests were employed. Muscular contractility under the Faradic stimulus disappears gradually after death. It is instantly diminished, but only finally extinguished in about three hours; and hence Dr. Hughes Bennett has suggested that electricity may sometimes be of use in medico-legal investigations, by affording evidence as to the time of death.—*Med. News and Circular*.

JABORANDI IN DROPSY.—The Boston *Medical and Surgical Journal*, January 15, 1880, contains a report by Dr. F. H. Cilley, of Barnet, Vt., of the following interesting case:

Mrs. H——, aged fifty-five, who had had dropsy during the last five years, with valvular disease of the heart, on June 18 had severe dyspnœa: she had passed no urine for twenty-four hours, and had general anasarca. Half-drachm doses of the fluid extract of jaborandi were given every four hours. Its effect was manifested in half an hour;

within eighteen hours she passed sixteen pints of urine; also profuse perspiration and salivation were induced. The dyspnœa was at once relieved. A second attack was relieved by the same treatment. The patient has had tonics during the last four months, and is now in good condition.

MICROCEPHALUS.—Dr. Jacobi (*N. Y. Med. Society*) presented a case of microcephalus in a child, aged three and a quarter years. The cranial measurement from ear to ear was twenty-five centimetres. The child was born with long hair and closed fontanelles; the use of the limbs was entirely wanting, and the extremities were in a state of constant flexion. The first tooth, which was already discolored, appeared in the lower jaw, at the eighteenth month. The division of microcephali into two classes was based on distinctive features of difference. The first class comprised those that presented ossification of the cranial sutures at an early period, the brain remaining normal. In the second class were included microcephali whose cranium and brain, especially at the upper and anterior aspect, showed deficient development. The case presented would belong to the first class.—*N. Y. Med. Journal*.

ATTENUATIONS.—From an old address of Prof. Armor, we clip the following, his address being textually, "Medical Science and Common Sense:"

"But the high dilutions stagger our credulity, not to say our common sense, when used as curative agents. It is difficult to believe, for instance, that a patient is cured by high dilutions of lime, when he is swallowing a thousand times as much in every drink of water he takes. Every egg he eats has a thousand times as much sulphur or phosphorous in it as a 'high dilution' homeopathist would give him. Every morsel of meat he takes contains more iron than a homeopathic dose. The very air we breathe is full of these 'attenuations' in most confusing perplexity. There may be science in these high potencies, but common sense is slow to accept them."—*Obstetric Gazette*.

QUEBRACHO IN DYSPNŒA.—According to Dr. J. B. Berhart, of London, this new drug continues to prove itself a very efficient palliative in all forms of dyspnœa. His experience of its efficacy refers only to cases in which the dyspnœa was associated with emphysema of the lungs, ather-

oma of the arteries, and degeneration of the cardiac muscles. In all these cases a teaspoonful (5.00) of the liquid extract afforded *immediate relief*. In three minutes after the administration of the drug the pulse became somewhat fuller, but not increased in frequency; the patients felt their breathing easier; the face was flushed, and a gentle perspiration appeared on the forehead. There were slight drowsiness and inclination to sleep. These symptoms, however, soon subsided, while the breathing continued to be much improved.—*Medical and Surgical Reporter*.

PRURITUS ANI.—During last summer I had a case of this kind which baffled all my endeavors, until I used the following prescription:

R.—Camphoræ.

Chloral Hyd., aa, ʒ ss.

Ung. Petrolei, ʒ vij.—M.

Sig.—Ointment.

This gave immediate relief, and a few applications only were needed; the itching was permanently allayed.

Repeated experiences with it since that time have so satisfied me of its efficiency, that I venture to suggest it to the readers of your valuable journal, in the hope that they also may find it a "friend in need."

JOHN H. PACKARD, M. D.

—*Medical and Surgical Reporter*.

ANÆMIC MENORRHAGIA.—*Editor Medical Brief*: If Dr. S. W. Hopkins, of Bower's Mills, Mo., will try the following prescription in his anæmic menorrhagic case, I think that he will be pleased with the result. It has never failed with me:

R.—Quin. Sulph., grs. xxx.

Acid Phos. Dil., ʒ vi.

Elix. Iodo. Brom. Cal. Co., ʒ iv.

Tr. Gentiæ Co., ʒ ij.

Tr. Cinchon, q. s., ʒ viii.

M.—Sig.—Teaspoonful in a little water four times a day.

BARTON DOZIER, M. D.

UKIAH, CAL., Jan. 13, 1880.

—*The Medical Brief*.

SIMS' SPECULUM ALWAYS AT HAND.—The index and middle fingers of the right hand may be used as a perineal retractor in place of the ordinary Sims' speculum. They may be introduced with the patient in Sims' latero-prone position,

the operator standing back of the patient, on the side of the table, in exactly the position of the assistant, who holds the speculum in the ordinary way. In this manner the cervix and vagina may be exposed almost as well as by the speculum. This method of exposing the parts may be of great use when a speculum is needed and not accessible; in the application, for instance, of the tampon in sudden hemorrhage, or in consultations at a distance, when, for reasons not anticipated, it becomes necessary to examine the pelvic organs.—*Chicago Med. Gaz.*

THE DOCTORS IN MEMPHIS, DURING THE EPIDEMIC OF YELLOW FEVER.—*N. Y. Medical Record*: In 1878 all the homeopaths—four in number—ran away when the plague came. Of the forty-six regulars, ten followed in their wake. Of the thirty-six who remained, twenty-eight were attacked with the fever and fourteen died. Eight already had had the disease and were not attacked, although on duty day and night. This fact corroborates the belief that one attack gives immunity from a second.—*Louisville Medical News*.

PRECAUTION IN ADMINISTERING IRON.—Dr. T. Grainger Stewart has discovered that when, during the administration of the tincture of chloride of iron, functional derangements of the stomach and liver arise, with furred tongue; impaired appetite, headache, etc., these symptoms rapidly disappear upon adding one-half grain of the chloride of ammonium to each minim of the tincture. He finds this combination notably useful in cases of heart disease accompanied by anæmia and debility.

ERGOT IN CATARRHAL AFFECTIONS.—Ergot is now recommended as a local remedy in catarrhal affections of the eye and throat. In chronic conjunctivitis the strength is 65 of the extract to 32 of water, a little glycerine being added to preserve the drug. In throat affections, it forms an excellent element in a gargle, or may be applied in combination with tincture of iodine. In nasal catarrh it may be applied by means of gelatin bougies.

EASTERN MEDICINE.—Dr. Norman Macdonald, in a short historical sketch of medicine, gives some very interesting facts concerning the practice of medicine among the different nations of Asia. It is a subject for much thought why one side of the world should have remained so sta-

tionary in its knowledge of anatomy and the treatment of disease, while the other has made such rapid strides forward; and it can only be accounted for by the influence of religion. The Burmese physicians descend from father to son, and their whole practice is based on manuscripts, written on palm leaf, which, though without date, are supposed to have been written about 600 B. C. Their treatment is, in most cases, very simple, and succeeds admirably in giving nature every chance to cure the patient in her own way.

Dr. Macdonald procured a loan of several of the manuscripts, and translated them. They believe in the circulation of the blood; that for six days it ascends or rises, and then ebbs for the same period; on the seventh day the currents meet, and then it is that any disease will show itself; but no medicine should be given for three days. Music, such as it is, is administered as a tonic, in all-night doses. The hopelessly diseased patient often has the satisfaction of viewing his own coffin, which, prepared beforehand, is set out for examination—a proceeding which can not fail to give consolation, especially if the coffin is ornamented.

The children are never weaned voluntarily, and are often seen at the breast until three or four years of age. Smoking is not considered a vice, both sexes using tobacco constantly, and one even sees little nude children running about with cheroots in their mouths.

The Chinese have, until recently, founded their system on that of Hoang-ti, written some four thousand years ago. A good example of their surgery can be obtained from a paper by Dr. Keen, in vol. iv. of the *Transactions of the College of Physicians of Philadelphia*, from which, it seems, they can hardly be equaled for barbarism. It seems incongruous that a nation so far advanced in art manufacture, showing them to be capable of much better education, should have remained so many years as sadly deficient in civilization generally, and medicine specially. They believe the human body to be composed of two elements, heat and moisture, which elements circulate, beginning at three o'clock in the morning at the lungs, and terminating at the end of twenty-four hours in the liver. The Japanese have very much the same system as the Chinese, from whom they seem to have borrowed their ideas.

The Hindoo physicians teach that the body is composed of 100,000 parts, in which are comprised 17,000 different canals, in which are ten species of wind. Diseases are produced by the irregular directions of these winds. The air enters the lungs during the act of respiration, being the source of all the winds, and the best preventive of these disorders is not to breathe too quickly. A simple remedy, certainly.

BOOK NOTICES.

THE MICROSCOPE AND MICROSCOPICAL TECHNOLOGY: A Text-Book for Physicians and Students. By Heinrich Frey, Professor of Medicine in the University of Zurich. Translated and Edited by George R. Cutter, M. D., Surgeon New York Eye and Ear Infirmary, etc. 388 Engravings on Wood. Second Edition. 8vo. Pp. 660. New York: Wm. Wood & Co. Cincinnati: R. Clarke & Co. Price, \$6.00.

This work has undergone a thorough revision and has been greatly enlarged. If not before, it will certainly now, rank among works of the highest standard devoted to the department of which it treats. This is the second edition which has been called for in this country. In Germany there have been some five or six editions published; and, as the translator very correctly remarks, a copy is always found on the table of those microscopists who are able to read it in the original language.

The work is divided into twenty-two sections or chapters. The first section is devoted to the "Theory of the Microscope." The greater part of this section is identical with what is found in the Natural Philosophies of academies in regard to the laws of light passing from a rarer into a denser medium, its refraction and reflection, the nature of lenses, etc., and could, therefore, very well have been omitted. But as the works of Carpenter and other microscopical writers treat these subjects, it seems as if a chapter or so must be devoted to them for the completeness of the work.

The other sections, up to and including the tenth, are devoted to a description of the microscopes of the different European makers, accessory apparatus, preparation and mounting of objects, etc. Our author seems not to

have much knowledge of the instruments of American and English makers, and therefore he has not much to say in regard to them. The translator has, however, to some extent endeavored to make up the deficiency. But even he does not seem to have a very thorough acquaintance of the capabilities of the objectives of high angle of aperture which are now made by Tolles, Spencer, Powell and Lealand, and others. It is queer, but it is nevertheless true, that not a single work has as yet been published that approaches at all near to describing the advanced microscope of the present time, or gives at all a correct account of the wonderful capabilities of the finest made objectives. Of course the microscope is for the purpose of opening up to us a world otherwise unknown, and therefore is only secondary. But, while this is true, it nevertheless is worthy of deep study itself; and we consider it unfortunate that no work has, as yet, been published that unfolds its truly wonderful powers when constructed skillfully, in accordance with our present advanced knowledge of the laws of light. But we are now only mentioning the wants of the microscopist skilled in optics and who studies the instrument as a scientific result.

But as a working microscopist our author can not be excelled, nor is his book surpassed in showing what the microscope has revealed in physiology and pathology. In the eleventh section the blood, lymph, chyle, mucus and pus are treated, and we have a most interesting exposition made of them. In the next section follows the consideration of epithelium, hair and nails; and in the subsequent ones all the various tissues of the body are accurately and interestingly described.

THE PRINCIPLES AND PRACTICE OF GYNECOLOGY. By Thomas Addis Emmet, M. D., Surgeon to the Woman's Hospital of the State of New York, etc. Second edition, thoroughly revised. With 133 Illustrations. 8vo. Pp. 875. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co. Price, \$5.00.

Probably there is no department in medicine in which there is so much literature as in that of diseases of women. Nevertheless there continues to be room for a good work—one having original features, containing the results of the observations and experiences of a learned, skillful phy-

sician, with deductions from his own train of reasoning, and from his study of those of others. Such an one tends to enlarge the scope of knowledge and to add to the progress of medicine, even if it does not disclose any actual new discoveries. That the work before us is a valuable addition to the already large amount of gynecological literature is evident from the fact that in less than a year from the publication of the first edition a second one is called. A book attended with so rapid a sale must certainly be regarded as possessing very considerable merits.

In attempting to ascertain and formulate the laws which apply to diseases, and to analyze the results of treatment, the author has compressed numerous histories and facts into a number of statistical tables, which present in brief space, information that hundreds of pages would scarcely have sufficed to contain in detail. Their parallel, he says, it is believed is not to be found in the whole range of gynecological literature; and if they unfold to others, he states, what he has aimed to put in them, he will feel himself compensated for the labor they have involved.

We are confident that any physician who adds this work to his library, however many works he may already have on the same subject, will feel that he has made a valuable addition to it.

HEADACHES: THEIR NATURE, CAUSES AND TREATMENT. By Wm. Henry Day, M. D., Member of the Royal College of Physicians, London, etc. Third Edition, with Illustrations. 12mo. Pp. 317. Philadelphia: Lindsay & Blakiston. Cincinnati: Peter G. Thomson. Price, \$2.00.

Headache is the commonest of affections, and, at the same time, frequently produces the most intense suffering. Some individuals seem to be martyrs to it, and oftentimes, suffer so much with it that life actually becomes a burden. It is an affection that frequently gives the practitioner a great deal of annoyance in its treatment—for he so often prescribes without giving relief, or, if he does, it is of a very temporary character.

We feel sure that every physician will eagerly seek for a work that will probably render him assistance in the treatment of such an affection as headache. The work

before us is small, and its contents, therefore, easily mastered. It contains sixteen chapters, in which are given pretty full descriptions of the various kinds of headache. The first chapter describes the headache of cerebral anemia; the second, of cerebral hyperemia; the third, sympathetic headache; the fourth, dyspeptic or bilious headache; the fifth, congestive headache. Other chapters treat of headache from exhaustion, or from some peculiar change in the cerebral tissue, nervous headache, nervo-hyperemic, toxemic, rheumatic, organic or structural, headache from affections of the peritoneum, headache of advanced life, etc.

The work will be found an exceedingly useful one indeed. Much valuable information can be obtained from it in the treatment of a class of affections that the physician is called upon almost daily to prescribe for, and in which all "set" prescriptions almost invariably fail to give relief.

OUR HOMES. By Henry Hartshorne, A. M., M. D. Formerly Professor of Hygiene in the University of Pennsylvania. 18mo. Pp. 149. Philadelphia: Presley Blakiston. Cincinnati: R. Clarke & Co. Price, 50 cents.

This is the ninth of the series of American Health Primers. As we have before stated they are designed both for physicians and laymen. They are written from an American standpoint, with especial reference to our climate, sanitary legislation and modes of life. The subjects selected are of vital and practical importance.

The little work before us is to give information how homes should be constructed in order to be healthy and comfortable. Therefore we have described what their situation ought to be and how built. Then follow chapters on light, warmth, ventilation, water supply, drainage, disinfection, population, workingmen's homes. The information will be found large and valuable. The amount of ignorance displayed in the erection of habitations is very great indeed, and is the cause of a vast amount of disease.

LECTURES ON THE HUMAN EYE, IN ITS NORMAL AND PATHOLOGICAL CONDITIONS. By Adolf Alt, M. D., Lecturer on Ophthalmology and Otology in the Trinity Medical School, Toronto, Canada. With 95 illustrations by the

author. 8vo. Pp. 208. New York: G. P. Putnam's Sons. Cincinnati: R. Clarke & Co.

A great many works have recently been issued on diseases of the eye, and one would be inclined to suppose that there was not need of any more books until further advance had been made in the knowledge of those affections. But this work differs from its predecessors, in that more attention is given in it to pathology. The author is a microscopist, and consequently has himself investigated, confirming, in some instances, the investigations of others, in others correcting them, and in others making discoveries himself. It is a pleasure, in studying a work, to follow up an original investigation. All of the illustrations are drawn from his own specimens, and he has copied only what he has really seen.

THE HAIR: ITS GROWTH, CARE, DISEASES AND TREATMENT.
By C. Henri Leonard, M. A., M. D., Professor of Diseases of Women in the Michigan College of Medicine. Illustrated by 116 Engravings. 12mo. Pp. 316. Detroit: C. Henri Leonard. Cincinnati: R. Clarke & Co. Price, \$2.00.

We feel quite sure that this will become quite a popular work in the profession. The hair is an adornment of the person that is prized more or less by every one; and with the female sex "a splendid head of hair" is a source of the greatest pride. A pretty woman would almost as soon lose her hand as to lose her beautiful hair.

There is no part of the body more liable to affections of different kinds than the hair. With very many it is liable to turn prematurely gray; with thousands it falls out and they become bald. Scarcely a day passes by that the busy practitioner is not consulted by some of his patrons in regard to their hair; and whatever may be the affection, in nine cases out of ten, the prescription made fails to relieve.

The work before us is full in its information in regard to the hair. At first it gives a minute description of it and the structure of the scalp physiologically, and then proceeds to the treatment of the various diseases of the hair. The author has given the subject very profound consideration, and the information presented is very great,

and will prove very valuable to the physician who is called upon often to treat these affections. We very cordially recommend the work.

EDITORIAL.

THE MEDICAL NEWS.—THE MEDICAL NEWS now takes a position among the old journals. From the time the first number was issued (January 1, 1868) to the present time, it has been regularly published—not failing in a single issue. We remember with how much trepidation the first number was sent out, and how apprehensive we were that the undertaking of establishing a new medical journal would be a failure. Many enterprises of the kind had failed. Of the numerous journals that were being published, scarcely any were more than two or three years old. We were rejoiced, however, at the favor with which our new journal was received. A goodly number responded immediately to our request for subscriptions with *material* aid, and ever since have responses been sent us with words of approval and hearty congratulations.

We desire now very much to largely increase our circulation. We wish, if possible, before the year closes, to double it. Will not each one of our present subscribers use a little exertion and send us one or more new subscribers? To any one who will send us the name of a *new* subscriber and four dollars in money, we will send, for a year, either one of the following magazines: *Harper's Monthly*, *Lippincott's Magazine*, *Scribner's Monthly*, *Atlantic Monthly*, *Harper's Weekly*, *Harper's Bazar*: or for five dollars we will send, for a year, without cost, *The Popular Science Monthly*, the journal of the highest order published in this country—five dollars is the publishers' price, *per annum*, for this splendid monthly.

Physicians, who are not subscribers, receiving a copy of the MEDICAL NEWS, should either return it with their names plainly written upon it, or inclose to us the subscription price.

NUTRITIVE ELEMENTS.—It had been our intention this month to have presented to our readers an article treating at some length in regard to some of the nutritive ele-

ments which make up the nutrition of the body; but our time has been so occupied that we have found it quite impossible. We can only allude to the intention, making a few remarks only on the subject, and defer the accomplishment of the purpose fully to a more convenient time.

We will say that our purpose of presenting to our readers some facts concerning nutrition was formed from reading the following extract from a paper by Dr. W. A. Hammond, of New York:

I have seen a great many cases in which individuals have had ordinary food, have been well fed in fact, in the ordinary acceptation of the term, and who have suffered from such a combination of symptoms as is regarded by physicians as being due to a deficiency of the phosphates, and which symptoms disappeared when such phosphates were directly given to them. There is not a day in my life that I do not prescribe phosphates to some one or more of my patients; and I believe that if the ordinary food contains a due proportion of phosphates, that such diseases would be very much less common; and there is a condition of the system which scarcely reaches the point of disease, but which, nevertheless, is very far from being a state of good health, and which is very easily cured by the administration of phosphates. As general authorities for the statement I have made I will mention Liebig, Chossat, Boussingault, Smith on Foods, Pereira on Diet, and I may say nearly every physiological writer on alimentation and diet. In fact, the necessity of phosphates as an element of the food does not admit of a doubt, and is not doubted as far as I know.

Our readers are aware of the great popularity which "Dr. Churchill's Hypophosphites" have obtained in the treatment of many affections, and they know that other preparations of hypophosphites have also acquired more or less reputation for their medicinal properties. But it should be recollected that in no part of the human system—in no tissue—are there found any hypophosphites, as such. We have phosphates, but not hypophosphites. It naturally seems to us, then, if these hypophosphites have to be changed into phosphates in the body before they can be made use of to nourish the tissues, why not employ phosphates instead of them, and not tax the system with the chemical change? This question was asked us by Mr. C. H. Phillips, while visiting his laboratory in New York, near a year ago; and we were not able to state any reason why not. The so-called syrups of the hypophosphites are underdone, incomplete phosphates, which are made into phosphates at the expense of the oxygen of other surrounding elements and the production of phosphuretted hydrogen. As we noticed in an article recently upon the subject: "It may be well to observe

that most of our chronic ailments—such as feeble nervous condition, impaired mental activity, pulmonary and digestive disorders, and especially a poor condition of the teeth—are the results of causes working slowly through many years; and one of the most apparent causes, that begins early in the years of our growth, is the absence of a due quantity of the proper kind of phosphates in our daily food.” While nutrition is going on we have the fluid pabulum passing through the living tissues by the well-known process of endosmosis. Now it is known that albuminoids penetrate membranes with great difficulty and slowness. But the phosphate of potash considerably increases the diffusive rate of albumen, and facilitates its translocation through the walls of animal cells. Under such circumstances the repairing process, in any hard-laboring organ, as for instance in the lungs, may be unequal to the wasting away by reason of a deficiency of phosphate of potash; and the lung be consumed because the reparative materials—the albuminoids—can not readily pass through the membranous cell walls.

Says Professor Liebig: “The nutritive salts of wheat are identical with those of meat, and one understands that what is true of meat must also be true for bread, and that the nutritive value of flour is less in the same proportions, as it contains less of the nutritive salts than the grain. The nutritive salts of wheat and meat are phosphates, and consist of compounds of phosphoric acid with potash, magnesia, lime and iron. The simple relation of the quantity of these substances contained in wheat and in flour, as shown by chemical analysis, will be sufficient to make obvious the difference in nutritive value of the two:

1,000 lbs. of wheat contains 21 lbs. phosphates.

1,000 “ “ flour “ 5½ “ “

Professor Fordyce Barker, of New York, says:

I have occasion almost daily to prescribe the phosphates or phosphoric acid as a tonic for the restoration of exhausted nerve power, whether this exhaustion be due either to physical or mental causes which waste the phosphatic elements from the system in excess of the normal balance of waste and supply necessary to health. I prescribe phosphoric acid in that class of cases which indicate excessive inability, generally the result of impaired power, and which are properly known as nervous diseases—nervous asthenia. This disease may be manifested by feebleness of almost every function of the body, as feebleness of digestion, defective assimilation, depraved or imperfect excretion, and still more emphatically by impaired cerebation. This statement is equally applicable to the phosphates.

Mr. C. H. Phillips, of New York, whom we have mentioned, prepares a form of phosphates, which, to distinguish, he calls "Phospho-Nutritive." In this preparation the phosphorus is in the form of phosphates, in the form it should be for immediate assimilation, and does not require any chemical change in the body like the preparations of hypophosphites. In preparing it no alcoholic spirits have been made use of which irritate the mucous lining of the stomach, and hinder and disorder digestion while the nervous system is unduly stimulated.

There is another preparation made by Mr. Phillips which, while we have got to writing at much greater length than we proposed when we commenced, we will refer to; namely, "Palatable Cod Liver Oil," in combination with "Phospho-Nutritine." We were highly interested in the description of it when we were visiting Mr. P.'s laboratory at the time we have mentioned. It *mixes with water in all proportions*. One can hold in his hand a half glassful of water, or any amount of water, and pour into it a teaspoonful or tablespoonful or any other quantity and have a complete mixture, which he will find very pleasant to the taste. This is not brought about by any previous saponification of the oil, or by the presence of any alkali. But we will let Mr. Phillips himself very briefly describe the preparation, which he has done in a recent personal letter to us, and which in writing he had not the remotest idea would be put in type:

"As to our combination of Cod Liver Oil we feel we have a very important preparation, to which, perhaps, you have given little or no attention, except what very little I exhibited to you in your last visit to my office. We know that of late years there have been so many preparations of Cod Liver Oil put in the market as to make it hardly possible to enlist the attention of any physician to a new article unless it possessed unusual merits and new features. "Phillips' Palatable Cod Liver Oil, in combination with Phospho-Nutritine" (wheat phosphates), is an article wholly new in conception, and of such merit and convenience as to at once appeal to their scientific knowledge and common sense. Without the aid of alkalis, we have accomplished such a minute division of the oil that under the microscope the globules appear about the size of those in milk, and have an emulsion that is per-

fectly miscible with water and as much under your control as any tincture. Your journal being somewhat devoted to microscopy this is a point you might make—it is a pretty test, that any one can make, and it clearly demonstrates the fineness of division. The advantage of having Cod Liver Oil in a palatable and pleasant shape, which can be diluted to any extent, so as not to distress or lower the tone of the stomach, and which must necessarily be more easily assimilated, any doctor must recognize. Before you write I would suggest the following experiments: Take a teaspoonful of my Palatable Cod Liver Oil and stir well in a glass of water. Try any other emulsion under the same conditions. Test the different mixtures as to combination, palatability and appearance. Out of each take a fraction of a drop and put it under a microscope of fifty or more diameters, which will show the comparative quantity of oil, the size of the globules, and whether or no there are any soap-bubbles. If these tests do not satisfy you as to the character of our preparation we shall be greatly surprised.

“We are constantly receiving reports from M. D.’s commendatory of our Phospho-Nutritine as a distinctive preparation in cases where a tonic is required or a repairer of brain and nerve-tissue, and have just received a very satisfactory communication from a physician in Albany, speaking in the highest terms from its use in his practice for vomiting in pregnancy.”

In a previous issue of the MEDICAL NEWS we gave a rather brief description of Mr. Phillips’ “MILK OF MAGNESIA,” so that we will not now mention its many excellent merits.

In a future article, as we have intimated, we design to write more at length in regard to the important part which the phosphates play in the economy. We can assure our readers we have not written what we have for the mere purpose of lauding the preparations of Mr. Phillips. We think what we have said bears evidence on its face that our assertion in this respect is true. Nourishing the body, by means of proper aliments, is demanding more and more attention in the profession; and it is becoming to be believed, more and more, that a very large proportion of the diseases is the result of a defective alimentation—the absence of necessary elements in the food brought about in some way or other.

THE CYSTOSCOPE.—This is an ingenious but rather complicated instrument, by means of which the bladder may be illuminated, and an optical examination made of it and the urethra. It is invented by Dr. Nitze, of Vienna, who has described it in detail in the *Wiener Med. Wochenschrift*.

The cystoscope differs from the old endoscope in the method of illumination. The light is not reflected from without, but is generated in the interior of the organ itself. Its source is a loop of platinum wire heated by a galvanic current. To avoid the injury to the parts which the heat of the loop would otherwise cause, it is kept continually cool by a stream of water running through a double system of tubes. The light emanating from the wire diffuses itself in the cystoscope through a small window of rock crystal in the side of the lantern inclosing it, and which forms the terminal bend of the endoscopic tube—the short, curved portion of the catheter. In the *urethroscope* the loop of wire, with its cooling apparatus, lies close to the external wall of the catheter, very near its internal orifice (which is cut off obliquely), and out of the axis of the tube. In the cystoscope the interior of the bladder, illuminated by the lantern, is observed through a second window, anterior to the latter in the straight portion of the catheter, by means of a prism, which acts by total internal reflection, and transmits the image to the “optical apparatus,” which occupies the rest of the anterior part of the catheter. This consists of an objective of small focal length, which forms in front of it a small real inverted image of the mucous membrane, of a lens in the middle of the tube, which converts the inverted into an upright image, and of an external eyepiece, which transmits to the observer’s eye a magnified, upright representation of the object. The lenses are so arranged as to be capable of accurate focusing. This optical apparatus is adapted equally to the cystoscope and urethroscope.

USE OF HYOSCYAMIA IN INSANITY.—Dr. John P. Gray, Superintendent of the New York State Lunatic Asylum, speaks in high terms of hyoscyamia in insanity. He stated that it had been the practice at the asylum, from time to time, to make a study of special remedies “to

determine, as far as possible, their therapeutic value and their application to the conditions of the insane." Of the action of hyoscyamia, he said: "In cases of acute mania and melancholia with frenzy, no remedy we have used has so efficiently and readily calmed the high nervous and muscular excitement, and brought about a degree of tranquillity essential to acquiescence in nourishment and rest, as a means of restoration." It was also found of great value in controlling the cerebral excitement of certain cases where there was persistent refusal of food, as it made it "reasonably easy and entirely safe to introduce the stomach-tube and administer the necessary food."

GOLDEN DAYS.—We have received six numbers of a weekly paper for boys and girls thus entitled. Each paper contains sixteen closely printed pages, filled with the most entertaining reading, with stories profusely illustrated with pictures. The whole contents are of a high order, calculated to not only please and delight, but to cultivate and instruct. In these days of dime novels and other most trashy literature, gotten up for the amusement of the young, which tends to demoralize the mind and deprave the taste, a paper like this should meet with liberal patronage, and we hope it will. Boys and girls will read, even if the matter is of an injurious character. How important, then, is it to put in their way that which will improve and cultivate. Published by John Elverson, southwest corner Eighth and Locust Streets, Philadelphia, at \$3 a year, \$1.50 for six months.

MALTINE.—This new preparation has been received with marked favor by the profession. For some time past we have been using it in our practice, and can speak from experience as to its merits. It is a most excellent nutritive tonic, and will be found most valuable in the treatment of nervous prostration, general debility and exhaustion, and also in lingering convalescence from fevers or other depressing affections. Combined with cod-liver oil it will be found highly beneficial in the treatment of pulmonary diseases, while the combination with pepsin and pancreatine is almost invaluable in the treatment of dyspepsia.—*Ed. of Canada Med. Journal.*

STERILITY.—We have received a communication from Dr. John T. Booth, post-office box 25, Wyoming, Hamilton County, Ohio, requesting that physicians, at an early day, favor him with any information they may have in regard to the subject of *sterility*. He will be obliged for any papers written or printed, and especially for any items from private note-books that have never been submitted to the public. Due credit will be rendered for all kind considerations, as requested, in a paper now in course of preparation for publication.

SMALL-POX.—The *Lancet* of March 20, of present year, states that during the three years 1870-72 there died of small-pox in London 10,615 persons; during the three years 1876-78, 4,695. It says that Dr. Bridges notes the tendency of small-pox to prevail in the metropolis with increased intensity at intervals of three or four years. The epidemics of 1870-72, and of 1876-78, were no exceptions to this rule of recurrence. But nothing like them, as to virulence, has been seen since the end of the past and beginning of the present century.

INDEPENDENT PRACTITIONER.—This is the name of a new medical journal recently commenced at Baltimore, Md. It is edited by Harvey Byrd, A. M., M. D., and Basil M. Wilkerson, D. D. S., M. D. Terms, \$2 a year in advance. So far it seems to be ably conducted. We wish it success.

DR. E. S. GAILLARD is issuing his journal, the *Richmond and Louisville Medical Journal*, in New York, with the title of *Gaillard's Medical Journal*.

MARRIED.—In Cincinnati, at the residence of Mrs. M. W. Latham, No. 107 Broadway, February 10, by the Rev. G. H. Kinsolving, Dr. Wm. Judkins and Miss Nellie Anderson.

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ORIGINAL CONTRIBUTIONS.

Aural Vertigo.

BY W. R. AMICK, M. D., CINCINNATI, OHIO.

Nov. 30, 1879. Mr. C——, æt. 33. American; laborer; married. Is a man a little less than medium size, and has generally enjoyed good health. When seven years old he had yellow fever in Mobile, Ala. Recovered from this without any unpleasant complications. At ten years of age, while living in Ohio, he had intermittent fever. When fifteen years old had scarlatina, in Mobile, Ala. Recovered from this without having any aural trouble or other *sequelæ*. There is no history of aural trouble or of insanity in the family. Had a half sister that was subject to epileptic attacks. Never had any venereal disease, and has been temperate in his habits.

When twenty-one years old he had a severe pain in the right ear. When the pain was at its maximum there was a "crack" in the ear, followed by a discharge. The pain passed away immediately. The only treatment instituted was the placing in the ear a roasted onion core. The discharge "passed away," leaving the hearing, so far as he knows, in a normal condition.

When twenty-three years old had a severe kick from a horse on the base of the nose. Did not lose consciousness, but was compelled to quit work for a week.

Since he first had aural trouble, twelve years ago, he has been subject to a recurrence of the discharge, whenever he is exposed and contracts a severe cold. He has not been in the habit of instituting any treatment further

than keeping the ear cleansed with water. The discharge lasts from a few days to a couple of weeks.

About three years ago he first noticed that occasionally, when he would stoop down and raise up quickly, he would have vertigo for a short time. These attacks of dizziness became more frequent, and finally became so troublesome that he had to quit work.

About the same time he discovered that he was becoming deaf. The vertigo still getting worse, he was compelled to remain in his room for two months. This was during the winter of 1877 and '78. During this time the dizziness was so great he could not walk without staggering around like a person intoxicated; and unless he received support, or could take hold of some object, would fall to the floor. Everything appeared to have a waving motion, and the floor or ground upon which he walked seemed to be full of holes, so that it appeared as if he were stepping down too far. This sensation was very unpleasant, and made it very disagreeable for him to attempt to walk. He was under treatment during this time, but does not remember whether the physician gave any name for the malady or not. Does not know what medicines were prescribed. He improved sufficiently to be able to attend to his work, but has been troubled more or less every day since then with vertigo.

Recently the dizziness has been becoming more marked. Whenever he stoops down and rises up quickly, or looks upward suddenly, he has an attack of vertigo, and seemingly will fall, unless he takes hold of some object. He is also troubled with pain in and around the eyes and in the frontal region. A peculiarity in this case is that he always has an attack of vertigo when he retires at night. Some days he feels much better than others, and on the former occasions has little or no trouble in the daytime, but as regularly as he assumes the recumbent position at night he has vertigo. These attacks at night generally last for a few minutes, and then gradually pass away. When he has one of these attacks there is no definite motion to objects, but everything appears to whirl around, and become mixed up generally.

When he presented himself for treatment it was for the trouble with his eyes. Had considerable pain in and around the globes, and throughout the frontal region. Another difficulty was the glimmering and waving of ob-

jects. Vision was good for either near or far objects; no contraction in the field of vision; was not troubled with photopsies. Whenever he would gaze at an object in the distance for a short time, the eyes would become painful, and the oscillatory movements already spoken of would become apparent. An ocular inspection revealed nothing. With the ophthalmoscope nothing could be seen except a little hyperæmia of the discs, and a slight effusion just above the right papilla, inverted image. This effusion was at first taken for a detachment. Being partially led in that direction by his statement of the wavering of objects, it was not hard to arrive at this conclusion. Closer inspection revealed that at this point the vessels were obscured, and changing the focus did not develop them.

At the first two visits there was nothing said regarding his cophosis, but at a subsequent one gave the history as related above.

An aural examination revealed cerumen in sufficient quantity to fill the internal portions of the canals. It was not impacted, and was easily removed with the syringe. The left membranum tympani presented the following appearance at the next time he presented himself: The posterior superior quadrant was of a straw color and slightly depressed. The handle of the malleus was very prominent, and this prominence continued to the posterior inferior nares, looking like the manubrium extended entirely across the canal. Just below the handle, and involving about one-fourth of the membrane, was a very marked cup-shaped depression. This portion of the membranum tympani had more of a normal color. There was a reflection from this portion which was apparently due to the moisture rather than the polish of the drum-head. Following the ridge of the manubrium, and around the periphery of the membrane, there was considerable congestion, but this may have been due to the mechanical effect of the cerumen. In the right ear nothing satisfactory could be obtained by the examination. The cellular structure of the integumentary lining of the canal appeared to be thickened and gave a funnel-shaped appearance, with the thickened grayish membranum tympani for the bottom of the funnel.

Has been troubled with tinnitus aurium, which was more marked in right ear. H., on contact with right ear,

left, two inches. An attempt to inflate the right ear was not successful. The air passed into the left tympanum, but in a very small quantity.

He was placed upon an alterative course of treatment, containing the iodide and bromide of potassium. The inflations were continued, which improved the hearing. As the latter improved, the painful condition of the eyes began to pass away and the vertigo less marked. He still complained of the vertigo when he would retire at night. In answer to the manner of decubitus, he stated that it was always upon the left side. A cardiac examination did not reveal anything abnormal with that organ. I then requested that he should lie down upon the right side and also upon his back, to see if it would make any difference. At the next treatment he reported that he had dizziness in either of those two positions, but it was slight compared with what he had when lying down upon the left side. He stated further that the little that was produced when first reclining on the right side had passed off; he turned over upon the left, when it again returned, but soon passed away.

In either case, singly or combined, the vertigo was not as marked as when he reclined upon the left side first. He was then asked to assume the various recumbent positions during the day, and report at the next treatment. He stated as the result of his experiments that he was not troubled at all when lying down in any position during the day. At night, however, he still had vertigo, when he first assumed the recumbent position.

The treatment was continued; hearing improved, and the vertigo became gradually lessened, until it gave him no trouble during the day. The tinnitus aurium passed away, and gives him no trouble except when he is exposed and takes cold; but it passes off with recovery from the exposure. He still has some vertigo when he retires at night. At last test H. A. D.= $\frac{2}{3}$. A. S.= $\frac{1}{3}$.

The Phosphates in Nutrition.

BY M. F. ANDERSON, M. D.

ALTHOUGH up to the present day consumption has proved intractable to almost every form of treatment, it has been and is a subject of universal interest. Its inception is so

insidious, its advance so rapid, and its mortality in all classes and at all ages so great, that its treatment must ever be of interest, and any research in either the field of therapeutics or pathology, any experiments in chemistry or physiology that throw any light upon the subject, should claim the attention of every thoughtful practitioner. Dr. M. F. Anderson, of England, has recently published a book on the subject of "Phosphates in Nutrition," a very able review of which may be found in the *Edinburgh Medical Journal* for November, 1878, and *Braithwaite's Retrospect* for January, 1879.

In it he clearly sets forth the results of his experiments on the part the phosphates play in causing and maintaining organic disease in the human system, and draws therefrom certain conclusions in regard to therapeutics that are well worth a careful study. He maintains that the inorganic ingredients of the blood and tissues have hitherto received too little attention at the hands of physicians. He believes that the only form in which phosphorus is met with in the fluids or solids is as phosphoric acid, and that usually in the form of a phosphate. This is in direct opposition to the views and teachings of many chemists and physiologists, who maintain that phosphorus exists, as such, in various albuminous compounds, or in some other form than that of phosphoric acid. He further states as the results of his research that in the blood and tissues these salts are always *tribasic*, having in addition, in nervous tissue, phosphoric acid as a hydrate and in combination with the albuminous material of the same.

The great point upon which the whole theory hinges is that these phosphatic salts enter largely into and are necessary for the proper nutrition of vascular tissue, and that their presence may be demonstrated in the inner coats of the arteries and the whole structure of the capillaries.

In confirmation of his views he goes on to show that organs will be rich in the phosphates in exact proportion to their vascularity. The bones are of course an exception, as the phosphate of lime is there simply for the purpose of giving strength—its presence being explained upon purely mechanical grounds. He cites tendons and ligaments as examples of low vascularity and proportionally low phosphatic presence, there being but a trace.

Passing then to a discussion of the function of the

arterial and venous radicles and the lymphatics, he demonstrates very clearly the fact that they serve a double purpose, namely, that of tissue renovators and builders and of scavengers or removers of waste materials, *i. e.*, the results of tissue metamorphosis. Advancing with the subject, he lays the primal, progressive and final danger in phthisis at the door of these builders and renovators of tissue, showing that they erect almost nothing, and tear down much to supply material for combustion and the production of animal heat. He then makes application of his facts and reasoning to consumption, scurvy, rickets and cancer, in all of which he claims that the arterioles, capillaries and lymphatics are seriously affected by an absence of phosphoric acid and its salts—their own nutrition being below the normal, they are unable to carry on the reparative processes in a normal degree, and indeed turn upon and tear down the tissues that it is their function to nourish, to supply their own and the wants of the system. The evil is then twofold: (*a*) tissues that should be renovated are destroyed, and (*b*) the resulting effete material, tissue *debris*, gradually collects in and about the cells until a thorough clogging of the machinery takes place and the vital chemistry of the part is wholly reversed or done away with. Further, the whole system is poisoned by this material and hectic, and its fellow troubles result.

In reference to scurvy, Dr. Anderson finds that the remedial power of lime or lemon juice in this disease lies in the citric acid which it contains, and that it acts thus by virtue of its power to render the insoluble phosphates soluble. He says: "The anti-scorbutic action of lemon juice is thus reduced to its citric acid, and the efficacy of this depends on the conversion of insoluble phosphates into soluble for the formation of tissue phosphates. He shows that while two samples of fresh meat yielded respectively .256 and .230 per cent. of phosphoric acid, salt meat such as is used on ship-board had but .147 per cent. before soaking; the prolonged soaking which it got before use still further removing the soluble phosphates.

Turning again to consumption, Dr. Anderson says that this condition of rapid tissue destruction to supply material for combustion, and the maintenance of heat, is, in a certain measure, relieved by the judicious exhibition of *cod-liver oil*; but says that the resulting improvement

will not be permanent, and ascribes it to the absence of the proper form or amount of phosphates in the food or medicine. As we all know, it is nonsensical to attempt to heal the lung lesion while the body is being consumed. Once the general health improves, the pulmonary troubles begin to mend or remain stationary.

That the tissues may cease to waste as rapidly as before the oil was given, does not prove that the oil will exert a curative effect. There is another block in the path: the results of tissue metamorphosis, that are interfering with local nutrition and poisoning the system. How shall we rid the tissues of this material? Dalton,* in speaking of the potassium and sodium phosphate, says: "Of all the internal fluids, the most essential is the plasma of the blood, since it affords the materials of nutrition for the entire system; and its alkaline reaction, which is distinctly marked, has been found to be invariably present, not only in the human subject, but also in every species of animal in which it has been examined.

"This reaction of the blood is, moreover, necessary to life, since Bernard† has shown that if an injection of dilute acetic or lactic acid be made into the veins of the living animal, death always results before the point of neutralization has been reached.

"The alkaline reaction of the blood plasma gives to this fluid its extraordinary capacity for dissolving carbonic acid. According to Liebig, water, which holds in solution one per cent. of sodium phosphate, is enabled to absorb and retain twice its usual proportion of carbonic acid; and other alkaline salts, as is well known, have a similar action upon this gas. Consequently, the blood, as it circulates among the tissues, rapidly absorbs from them the carbonic acid that has formed in their substance, and incessantly carries it away to be eliminated by the lungs.

"This important property of the circulating fluid depends upon its alkaline reaction. The alkalescence of the blood is due, in a great measure, to the *alkaline phosphates*,‡ which are present in human blood in the proportion of 0.67 part in one thousand parts."

The part which the phosphates play in the blood is thus seen, and is a very important one, though probably second-

* Human Physiology. Phila., 1875, p. 49.

† Liquides de l'Organisme. Paris, 1859, tome 1, p. 412.

‡ The italics are ours.

ary to its nutrient action on the capillaries. That retained products of decomposition often prove a source of great evil, is beyond question. Dr. T. Lauder Brunton* says: "The intercellular fluid, in which these products (of decomposition or tissue waste) are contained, is absorbed with the general circulation by the veins and lymphatics. Unless some provision were made for its removal it would soon accumulate in the blood and arrest the functional activity of the various tissues, beginning with, that most susceptible of all, the nervous tissue, causing death."

The doctor further states that, aside from their action on capillary nutrition, the phosphates aid in the secondary assimilation of the other materials of the ingesta.

A careful review of the foregoing facts, so ably set forth by Dr. Anderson in his valuable work, leads us at once to the conviction:

1st. That the primal trouble in these diseases (consumption, scrofulosis, etc.) lies with the capillaries, which, by reason of a lack or total absence of the phosphates, are unable to properly nourish the tissues. A rational treatment, therefore, must be that which supplies these salts in a palatable and easily assimilated form.

2d. That a lack of these salts in the blood allows the accumulation of tissue detritus, and a gradual poisoning of the system, manifested by chills, hectic, and profuse night-sweats; these sweats and the diarrhea still further impoverishing the blood in its much-needed saline ingredients.

The treatment of consumption and diseases of like nature by the phosphatic salts is by no means new, for the profession generally, following the lead of Dr. Churchill, have for some time been using the hypophosphites of lime and soda. This preparation was first introduced in the hospitals of Paris some thirty years ago. The results which were then and have since been attained, show that the doctor, although taking a step in advance, had not reached perfection, and it is nothing more than is reasonable that in the time that has elapsed some new preparation or modification, based on recent physiological and chemical discoveries, should improve upon and supersede it. The idea or theory on which this treatment is based

* Practitioner, Aug., 1878, p. 91.

is a correct one, but the application is faulty in two respects:

1st. Instead of the *hypophosphites* the *phosphates* should be used; and,

2d. The bases should be of the kind and in about the proportion found in the food, have a relative proportion to the amount in the brain, muscles and nerves, and be given with the oil in an *acid* solution.

We have already seen that phosphorus exists in the system only as a tribasic phosphate,* nervous tissue having in addition phosphoric acid as a hydrate, and in union with the albuminous matter. The phosphates are proximate principles of the body. Dalton† says: "A proximate principle is properly defined to be any substance, whether simple or compound, chemically speaking, which exists under its own form, in the animal fluid or solid, and which can be extracted by means which do not alter or destroy its chemical properties."

As Dr. Anderson claims, and others verify, the phosphates are the salts needed. The hypophosphites are not found in the blood, tissues or excretions, and when given in this form phosphoric acid meets the indications, if at all, but very imperfectly. It is claimed by the advocates of the hypophosphite treatment, that the phosphates are of no essential benefit, being rapidly excreted in the form in which they were taken. This is true also of the sodium chloride, but it is not denied that it is of the greatest use, and necessary to the tissues, fluids and animal membranes in which it exists, and by which the process of osmosis is so greatly facilitated. The experiments of Boussingault upon animals, and those on the relative permeability of animal membranes by solutions, with and without the chloride, are too well known to need quoting at length here. The phosphates possess the same property, though in a less degree. Furthermore, we think there can be no question as to whether the salts of phosphoric acid do undergo certain changes in the blood. The idea that the phosphates we find in our urine are the same that we took in with our food is preposterous, and against all chemical knowledge.

It is claimed by some that the hypophosphites are

*The only exception to this is the acid biphosphate of the urine, which, however, appears only in an *excretion*.

† Human Physiology, Phila., 1875, p. 85.

superior to the phosphates in the treatment of these diseases, from the fact that the former represent phosphorus but partly oxidized, and that the remedial power lies in its taking two more atoms of oxygen to itself after entering the system, passing off by the kidneys as a phosphate; the phosphate thus being burnt-up material. If this is so, or was intended to be so, why does not nature give us hypophosphites in our food, and store it up in our muscles and nervous tissue?

"Our vegetable food of every kind contains these phosphates, and in not much dissimilar proportion.

"The nutritive salts of wheat are identical with those of meat, and one understands that what is true of meat must also be true for bread, and that the nutritive value of flour is less in the same proportions as it contains less of the nutritive salts than the grain. The nutritive salts of wheat and meat are phosphates, and consist of compounds of phosphoric acid with potash, magnesia, lime and iron. The simple relation of the quantity of these substances contained in wheat and in flour, as shown by chemical analysis, will be sufficient to make obvious the difference in the nutritive value of the two:

1,000 lbs. of wheat contains 21 lbs. of phosphates.

1,000 " flour " 5½ "

*Prof. J. V. Liebig.**

In the mothers' milk, which is the food, *par excellence*, for tissue formation, hypophosphites are not present, but phosphates are, and in goodly amount. Can we follow any better example than that given us so uniformly by nature? And when the treatment fully bears out and verifies the theory, is it not well to follow it to the best of our ability? It is to be recollected, in this connection, that we are not seeking to find a specific for a disease, but to feed and build up wasting tissues.

— Speaking of the phosphate of magnesia, Dr. Dalton* says: "Like the lime phosphate, which it everywhere accompanies, it is present in all the tissues and fluids of the body, though this substance is, for the most part, in the smaller quantity of the two. Thus, in the bones, the lime phosphate is in the proportion of 576 parts per thousand, while the magnesium phosphate forms only 12.5 parts. In the blood, the calcareous salt amounts to 0.30

*Op. Cit., p. 48.

part per thousand, the magnesium salt to 0.22 part; and in the milk there are 2.72 parts of lime phosphate to 0.53 part of magnesium phosphate. *On the other hand, the salts of magnesium have been found to be in larger quantity than those of lime in the muscles, and nearly twice as abundant in the brain.**

It will thus be seen that while the lime phosphate is in excess in the bones, milk and blood, the magnesium phosphate is in excess in the muscles and nervous tissue. This fact calls on us to let the lime phosphate play a minor and the magnesium salt a major part in the treatment of consumption, and the nervous and wasting diseases.

Those physicians who advocate the use of the hypophosphites, aside from the error of giving the wrong salt, persist in making lime and sodium their chief bases. The need for phosphate of lime in the bones, of which it forms 576 parts per 1000, and in the milk that goes to the child whose bones are rapidly forming, is very apparent, and affords an indication for treatment in rachitis. The case is different in consumption. Even if we hope for a cure by calcification there is always enough lime present to accomplish it, provided the nourishment of the general system, dependent on a fairly healthy condition of the capillaries, allows it to take place. Enough sodium is furnished by the chloride of the same. In this food-treatment of the wasting diseases we should choose our phosphatic salts after the pattern nature furnishes us in the proportion in which they are present in our food.

"One pound of wheat contains about 140 grains of phosphates, made up as follows: Phosphoric acid, 66 grains; potash, 41 grains; magnesia, 16 grains; lime, 6 grains; soda, 3 grains; iron, 3 grains; sulphuric acid, 3 grains; silica and chlorine, 2 grains.

"In meat the most important is phosphate of potash; magnesia is also present. The proportion of lime, when present, is so small that it rarely amounts to one-fourth of the magnesia."—*Prof. Liebig*. (See Turner's Chemistry.)

"The phosphates contained in wheat are soluble; they are not combined with organic matter, but are in a free condition; further, the greatest part are those of potash and magnesia."—*Prof. Grace Calvert, F. R. S.*

There are those in and out of the profession who claim

* The italics are ours.

extraordinary results from using what is improperly called "vitalized phosphates." Phosphates are phosphates, and nothing more, wherever we find them, and the fact of their having passed through certain living or organized bodies, or originated in them, can exercise no influence on their therapeutic value. However originating, if supplied to the tissues in proper form and proportion, they will do their work.

We have shown in the last chapter, that while the oleo-mineral treatment is especially adapted to those diseases whose origin lies in defective nutrition, the facts have been unintentionally perverted to suit a false theory; *i. e.*, that of supplying phosphorus to tissues that do not need it, and in which it has no place, but which do need phosphates. It is for this reason that the treatment has so generally failed, and brought nothing but disappointment to its originators and supporters.

The common treatment, that by cod-liver oil alone, is a good one, but that by oil and phosphates is a better. Having once recognized the value of cod-liver oil in the treatment of these diseases, a great advance was made when the emulsion of the oil was proposed and carried out. By the minute subdivision thus attained, the weakened pancreas, the juice of which is necessarily below the normal standard, is relieved of extra work, and a pleasant taste and smell substituted for that which was before disgusting. The cooking, seasoning and flavoring of food is one of the features that marks the dividing line between man and animals, and that is more fully developed as we ascend in the scale of civilization. It is a well-known fact that a dish that is palatable will be digested rapidly and thoroughly, where one that is nauseous, or insipid, will be but partly or poorly digested, and will pass off by the bowels in a few hours by means of an irritative diarrhea. This is especially true of persons who are nervous, and whose stomachs are weak and easily disordered.

There is, however, one great fault to be found with the majority of the emulsions now in the market. They are made up with alkalies (the hypophosphites) in combination with the oil, thus defeating the great aim of the preparation—minute subdivision ensuring ease of assimilation.

lation—and presenting a *liquid soap*, much of which passes off by the bowels.

Assuming, then, that a judicious combination of the oil emulsion and the phosphates, with an agreeable taste and smell, is indicated in these diseases, how can we accomplish it without saponification of the oil? By presenting the oil in an *acid* solution, the acidity being due to free phosphoric acid. It has been my endeavor, and I am pleased to say that I have succeeded in producing just such a combination. This preparation has now been before the public and in the hands of the profession for some time, and all who have used it have tested its practical working and great worth. Children take it without question, and digest it readily.

One great point in its favor is its thorough *miscibility with water*, forming a kind of milk. It can thus be diluted to suit any taste, or the idiosyncrasy of any stomach. It may be well to state here that the pleasant taste and odor of this preparation are not attained at the expense of the oil. *It always contains 50 per cent. of the best Norway cod-liver oil.* Above all, this preparation is founded on a rational basis of facts that are sure to carry conviction to the minds of those who study them, and the truths will be borne out and verified by the results of the treatment.

As we have seen from Dr. Anderson's experiments, the phosphates exercise their peculiar functions directly in the capillaries and tissues themselves. From Dr. Dalton,* also, we demonstrate the increased scavenger power of the blood by reason of the presence of these salts. They, of course, do this work, although secondary to their nutritive action on the capillaries, when given *with* the oil, and to this is probably due much of the relief from night-sweats and hectic. There are cases, however, where, when given alone, they act to special advantage. Stout, plethoric people, who eat much and exercise but little; whose tissues are in a boggy, ill-drained condition, will find this preparation of the phosphates (phospho-nutritine) of the greatest service in accomplishing tissue defecation and sewerage. The dull, heavy, somnolent feeling experienced by these patients is soon relieved, and a slow poisoning by tissue detritus avoided.

We have seen that in the brain, muscles and nervous

* Op. Cit., p. 49.

system phosphate of magnesia is present in about double the quantity of phosphates of lime, and in a relatively larger proportion than the phosphates of the other bases. This preparation contains the phosphates in about this proportion, and it will be found of inestimable value in the rational treatment of the various neuroses, especially nervous asthenia. In these days of mental strain and overwork, some preparation is needed that will assist brain and nerve power, not by stimulation, as commonly understood, but by *direct nourishment*. There are some cases where the oil and phosphates are indicated, in which it is better to commence with the phospho-nutritine until the nervous and capillary systems are improved, when the oil will be better borne than if given at the outset of the treatment.

It has been found that the prolonged use of the hypophosphites is apt to cause a phosphatic sediment in the urine, and predispose to calculous disease. The use of this acid preparation of the phosphates is open to no such danger, the slight excess of phosphoric acid to which the preparation owes its acidity going to render the urine more acid, though not abnormally so, and thus carrying off any excess of phosphates in a soluble form. In the so-called "phosphatic diathesis" this preparation of the phosphates has been found to be quickly remedial. "In the urine a portion of the alkaline sodium phosphate is replaced by the acid sodium biphosphate, which gives to this fluid its property of reddening blue litmus paper, although it contains no free acid."*

"The diurnal excretion of phosphoric acid by the urine is from 30 to 90 grains. The mean of twenty-five sets of observations by Dr. Parkes was 48.80 grains a day."†

We have already briefly noticed Dr. Anderson's conclusions in regard to scurvy. He has proved that this terrible disease is due to an almost total absence of the phosphates in salt meat, which forms the chief diet of sailors on long voyages. Accepting this fact, we must conclude that a combination of these phosphates in an acid solution is the very thing for this affection, and it would give me great pleasure to furnish some ship's crew who contemplate a long voyage, with enough of this preparation to fully test the accuracy of Dr. Anderson's views,

* Dalton, Op. Cit., p. 48.

† Roberts on the Urine, p. 43.

and at once set at rest the question of the causes and proper treatment of scurvy.

In conclusion, I would say that the comparatively new and very valuable views and research of Dr. Anderson, having so direct a bearing on the treatment of consumption, scrofula, wasting and nervous diseases, has led me to lay them before the profession in this country, knowing that they will recognize and apply practically the points of real value. I would further say that I am certain that no other preparation of the phosphates, or combination of the phosphates and oil, in the market, so fully carry out the ideas here expressed as do mine.

SELECTIONS.

The Significance of Albuminuria as a Symptom.

BY CALVIN ELLIS, M. D.,

Jackson Professor of Clinical Medicine in Harvard University.

EPIDEMIC.—The extraordinary epidemic of albuminuria described by Limousin (8) occupied a period extending from March to June, 1857, when there was no disease prevalent to explain it. Thirty cases were seen in which, without any known cause, persons were attacked in the midst of perfect health with general œdema, dyspnœa so severe as to threaten life by asphyxia and albuminuria. The albumen varied in amount in different cases, being sometimes very large, but almost never absent, and disappeared with the œdema and dyspnœa. With no further knowledge of this anomalous epidemic, we can draw no very accurate conclusions, but may suggest that dropsy alone furnishes a source of albumen when all parts of the body are affected.

EPILEPSY.—As albumen has not always been found in this disease (80; 81, p. 75), we give in some detail the investigations of Huppert (6, p. 369), who first assured himself that the urine was normal under ordinary conditions, then examined that passed after the commencement of an attack, without finding albumen, as the contents of the bladder at that time were secreted before the paroxysm. These precautions being taken, the urine was tested three-quarters of an hour after the attack, and

other portions subsequently, until the tests no longer showed albumen. In severe cases, the abnormal condition lasted three or four hours, more rarely six or eight, and still more rarely only two—the largest amount being found in the first portion examined, about three-quarters of an hour after the attack—from which time it gradually diminished. The more rapidly the paroxysms followed each other the more abundant was the albumen. Though the quantity was apparently greater in cases of long standing, the amount was generally sufficient to cause opacity only, though at times flocculi were seen. The albumen was not due to the presence of blood, for, after severe attacks, there were never more than one, two, or three red blood globules seen; and these were excessively rare, even in cases where petechiæ appeared in the conjunctivæ or eyelids. The writer assured himself that the urine must contain a much larger number of corpuscles before it becomes albuminous. Colorless corpuscles were more common; indeed, were hardly ever absent. The vertiginous attacks of epilepsy, where they succeed each other rapidly, may also be followed by albuminuria, but this is often wanting. These observations are confirmed by Dr. De Witt, who found albumen in more than twenty cases (104).

ERYSIPELAS (45, p. 265).—Albumen is most likely to make its appearance in severe cases. This is equivalent to saying, what is often true, that it depends not upon erysipelas as a disease, but upon the extent of the morbid processes in any given instance. As an explanation, we have the fever and perhaps some secondary though transient changes in the tissue of the kidneys.

EXERTION.—We have selected this head as expressing the most probable supposed cause. Edlefsen noticed in three healthy but anæmic men transient albuminuria after bodily effort (92).

Leube (28) examined the urine of a large number of healthy soldiers in the morning, and found it normal, but after a five hours' march, or severe exercise, in the months of June, July and August, with a temperature of 54° to 77° F., it contained albumen in sixteen per cent.; though the amount was small, perhaps just perceptible, and never exceeded one per cent. This could not be detected when another examination was made between four and six P. M. There were no casts nor blood corpuscles. The

same has been seen, under similar circumstances, in army officers, in connection with scanty urine, and also in nervous persons (97, p. 345). The specific gravity has been at times high. In such cases peculiar variations, diurnal or longer, occur, in which there is no albumen, and the latter may disappear without returning, and without any special change in the mode of life. It is most natural to suppose that its presence was owing either to some variation in the blood pressure, or to some change in the vessels. The rapidity of its appearance and disappearance makes it extremely improbable that there was any change in the vessels, and we are left with a variation of the blood pressure. The view that the last might be operative seems to be supported by the statement of Ranke, that the blood accumulates in the muscles of a healthy man during exertion, while it is diminished in the organs which are at rest.

r Edlén (97, p. 345) always found congestion of the lesser circulation in the bodies of soldiers who died on the march in consequence of exertion. It is suggested, also, that the deficiency of water in long-continued exertion may favor the diminution of pressure more than muscular effort. But if exertion causes albuminuria through a diminution of pressure, such a result does not necessarily follow, as was shown by Furbringer's own experience. After a long mountain climb in the summer, with profuse perspiration and scanty urine of a high specific gravity (1030-1033), no trace of albumen was found. We must admit, however, that, until we know through further investigations whether any change of pressure takes place, our solution is merely plausible. We must not forget, in this instance, the possible influence of the nervous system, which might well be affected by prolonged exertion.

FEVER.—There is hardly any affection accompanied by severe fever in which albuminuria may not show itself as a transient symptom, independent of the localization or nature of the disease (l, v. 9', p. 45; 35, p. 249). No positive law can be laid down in regard to its manifestation; inappreciable individual differences seem to control it. In some it is met with early, in others late, and is not always in proportion to the rise of temperature; being absent, perhaps, when the latter is 104°. In all acute diseases it disappears as patients recover; or, if they die,

no structural changes are found which may not also be found where there is no albumen. Persistent structural disease rarely follows the febrile affections, and if it does it is by no means certain that it is dependent upon the increased temperature (35, p. 347). The idea that it is connected with any special poison in the blood is inconsistent with the fact that we do not always have it in certain diseases where such might be the explanation, and that it is seen at various periods, perhaps early, and disappears before the temperature falls, perhaps late, even during convalescence (35, p. 249). In scarlet fever itself it may be detected before the kidneys are appreciably affected, merely because there is fever (16, v. 2, p. 862). Bartels and other observers have supposed that it might be attributed to direct paralysis or relaxation of the walls of the capillaries of the kidneys in consequence of the high temperature, but this is hypothetical (35, p. 248). Though Runeberg's experiments show that the permeability of membranes increases with the temperature, the increase within the body is not sufficient to produce it alone (35, 253). We must not forget that in the febrile diseases we have, besides the increased temperature, decided derangements of the circulation, caused partly through changes in the tissue of the heart, partly by the effect of the high temperature on the nervous system (35, p. 249). As a consequence of this interference, when the elevation of the temperature lasts some time, according to Liebermeister (65, p. 475), we have increased rapidity and weakness of the contractions of the heart, and, in the adynamic forms of fever, excessive diminution of arterial pressure and great rapidity of the circulation (65, p. 469). The pulse is quick and easily compressible, the quantity of urine is small, and albumen makes its appearance. Experiments with the new instrument devised by Marey (62) show that in this form of disease the pressure of the blood in a finger may fall to three cc., while it rises to twenty cc. in interstitial nephritis. Though Bartels has advocated the view of congestion, he does not think it possible to explain the appearance of albumen by this, as in many cases it is not found, and when present it may be combined with inflammatory swelling and infiltration (1, v. 9', p. 170).

Having demonstrated that a marked influence is exerted by the nerves over the blood vessels, it must be

accepted as at least one element in the albuminuria of febrile diseases. Still it can not be denied that, after the long duration of fever, the elements of the kidney may be changed, particularly the walls of the vessels, and constitute permanent disease, just as serious changes of nutrition may follow section of the nerves of vessels, if the animal live long enough (1, v. 9', p. 48). The red globules may also be so changed as to furnish albumen. Other complications may intensify the effect, and must be noted as they arise.

On the Treatment of Cancer of the Female Generative Organs by a New Method.

IN a communication to the *Lancet* (March 27, 1880), Prof. John Clay, Obstetric Surgeon to the Queen's Hospital, Birmingham, strongly recommends Chian turpentine in the treatment of cancer of the female generative organs, and also cancer of other organs; and from the results which he has obtained, he says, it may be confidently stated that the remedy exerts a powerful action on cancer of the female generative organs in particular, and it will be of advantage to point out some of the conclusions at which he has arrived respecting the efficacy of the drug and the manner in which it should be employed. The oil of turpentine, if it produces any effect on cancer, is inadmissible on account of the speedy production of its specific effects even when administered in small doses. The same remark applies with less force to the Venice and Strausburg turpentines; in his hands they have not produced the same beneficial effects on cancerous growths as the Chian turpentine has done. The maximum dose of the last-named drug, which can be safely and continuously given, is twenty-five grains daily. It is advisable to discontinue the remedy for a few days after ten or twelve weeks' constant administration, and then to resume it as before. The combination with sulphur was given at first, and has been continued. It is doubtful whether much benefit is derived from the combination, but the effects have been so uniformly good with it that it was thought advisable to continue its use. There is every reason to believe, from the trials made with other substances in combination with the turpentine, such as carbonate of

lime, iodide of calcium, ammoniated copper, quinine, bebeerine, hydrastin, etc., that the turpentine is best administered simply, as the most marked and rapid effects have always been manifested when it has been given alone.

The turpentine appears to act upon the periphery of the growth with great vigor, causing the speedy disappearance of what is usually termed the cancerous infiltration, and thereby arresting the further development of the tumor. It produces equally efficient results on the whole mass, seemingly destroying its vitality, but more slowly. It appears to dissolve all the cancer cells, leaving the vessels to become subsequently atrophied, and the firmer structures to gradually gain a comparatively normal condition.

It is a most efficient anodyne, causing an entire cessation of pain in a few days, and far more effectually than any sedative that Dr. Clay has ever given. In the cases he describes no sedative was employed in any instance, although in some cases where great pain had existed previously to commencing the treatment, large doses had been given. Whether this arrest of pain arises from the death of the tumor, or is due to there being no longer irritation of the sentient nerves (in consequence of tension being withdrawn by the removal of the cells), the fact is the same.

If, after the use of the remedy for some weeks, one of these cases were examined by a stranger for the first time, he would probably conclude that it was one of commencing malignant disease, by reason of the irregularities of its surface. The effect of the remedy being first to remove the cellular structures, any loss of tissue produced by the invasion of the disease can not be restored, and hence the irregular touch and appearance even after cicatrization. The arrest of the hemorrhagic discharge and the remarkable freedom from glandular affections, after a lengthened use of the turpentine, are specially important factors in materially aiding the removal of the cachexia and of improving the general condition of the patient.

Without being in a position to affirm that the Chian turpentine is a positive cure for advanced cancer of the female generative organs, yet, however the facts here adduced may be interpreted in this respect, two circumstances are indisputable—one, that all the patients after

several months' treatment are living, and that the disease has not advanced as is usually the case, but has retrogressed—in fact, has all but disappeared; and it may at least be safely asserted that when the remedy is steadily used for some time it arrests the progress of the disease, and relieves the pain incidental to the morbid growth in a manner which can not be said of any other remedy. It is probable that on an extended experience of its use and by variations of the mode of administration, it may prove an effectual cure for this intractable disorder. Patience and perseverance on the part of patient and medical adviser are absolutely required. We know that in some diseases, as bronchocele and syphilis, a long continuance of well-known remedies is often necessary to effect a cure of the particular disorder, and that the administration of the remedies has to be varied from time to time, according to the therapeutic effects produced by the drugs. In cancer, as far as experience has at present indicated, the same alternating method may perhaps have to be employed. Whatever may be the ultimate results, there can be no doubt that Chian turpentine in these disorders is a most valuable medicine. Judging by Dr. Clay's experience, it is no figurative expression to say that it acts as a direct poison upon the growth, probably causing its ultimate death. In advanced cancer the process of reparation is slow, but if the surrounding structures are not too much involved in the process of destruction, it will seem that a cure may be reasonably expected. It is not that the remedy has failed against the cancer, but that the vital organs are so much destroyed that their complete reconstruction and adjustment of functions are not possible, and life fails in consequence of their mutilated condition. Even under these circumstances, if the cancer does not recur, the efficacy of the medicine is obvious. In the early stages of cancer it may be affirmed that an undoubted cure may take place speedily, and as the contiguous structures are not extensively involved, but little deformity ensues; and experience justifies the expectation that under such circumstances a recurrence of the disease will not follow.

The following is the formula which Mr. Clay uses: Solution of Chian turpentine, half an ounce; solution of tragacanth, four ounces; syrup, one ounce; flowers of

sulphur, forty grains; water to sixteen ounces: one ounce three times daily.

The *Lancet* (April 3, 1880) calls attention to the importance of making sure that the drug employed is certainly what it professes to be. As a matter of fact, it is by no means easy to obtain Chian, or Cyprus turpentine. So long ago as the date of the publication of the earlier editions of Pereira's *Materia Medica*, there was so much difficulty in procuring the substance that the profession was especially warned against the almost inevitable substitution of Venice or Canada turpentine, or some other terebinth of totally different properties, in dispensing of prescriptions, for Chian turpentine. Probably there is scarcely any of the true resin in the market at present, and only druggists who happen to possess a small forgotten store *can* supply it. We think it desirable to make this intimation for the sake of medical practitioners who may be anxious to try the remedy, but who are almost sure to be disappointed, unless they take more than ordinary measures to insure accuracy. As Professor Clay stated in his paper, no other terebinth except the Chian has been known, or can be expected, to produce the effects which have followed its use in his cases. The public should also be cautioned against resorting to the remedy, without skilled medical advice and supervision; and very earnestly must they be made to understand that probably not a tithe of the medicine likely to be sold under the name of "Chian turpentine" during the next few months will be genuine. The caution given to the profession years ago by the then highest authority on the subject of pharmacy, at a time when there was no special demand for the drug, will be doubly necessary now, when nothing but the accident of having a small reserve on hand can enable any druggist to dispense it. It only remains to add that some of the received descriptions of *Terebinthina Chia seu Cypria* are so faulty that identification of the genuine drug will be attended with more than ordinary difficulty. It is the gum of a tree growing thirty or thirty-five feet in height, and is obtained by cutting crosswise with a hatchet the trunks of the largest trees. The yield is very small, "not exceeding eight or ten ounces" for each tree; so that it must be obvious that the bulk of the material sold under this designation at two or three shillings a pound is not genuine. Its con-

sistency is that of honey, but is more glutinous. The color is greenish-yellow. It has an agreeable turpentine-like odor, combined with the odor of fennel or citron and jasmine. Its taste is very mild. By keeping it resinifies, and, we may add, loses some of its virtue. The coniferous turpentine, which do not possess its special qualities, are usually sold for it.

Treatment of Cystorrhagia.

When cystorrhagia has taken place, besides enjoining absolute rest in the horizontal posture, the surgeon should take means to prevent the bladder from becoming distended with bloody urine. But if, when he arrives, he finds hypogastric dullness extending to or into the umbilical region, he should draw off, through a gum catheter, only a pint of urine, then throw in half a pint of the borax solution—as mentioned under the head of preventive treatment—and draw half a pint of fluid, and repeat the process until the fluid becomes clear, or nearly so. Afterward, every hour or two hours, the stopper of the catheter should be removed, and half a pint of fluid allowed to flow, until the bladder is completely empty. For that purpose the catheter should be retained in position twenty-four hours, very rarely longer. This drainage alone will often have the effect of checking the hemorrhage, especially if the muscular coat of the bladder soon begins to regain its contractility, which can be sometimes hastened by occasionally throwing in two or three ounces of weak, cold watery solution of tannin, of alum, or of almost any other astringent. Ice in the rectum, applied according to the plan of Cazenave, is a valuable adjuvant.

The next indication is to guard against general acute cystitis, the supervention of which would be the most serious accident that could well happen in such cases, except, of course, the rupture of the bladder.

Hemorrhage is more apt to recur in cases of pre-existing atony of the bladder. Therefore, it is important to begin to treat this atony as soon as the bladder has been emptied.

When cystorrhagia occurs in cases of cystitis, with sclerosis of the mucous membrane, whether the disten-

tion be caused by retention of urine or by a forced injection—which latter is sometimes used in their treatment—drainage is essential; no urine should be allowed to accumulate, and styptic injections in small quantities should be employed, and gallic acid, or some of the other hæmostatics, will be indicated. In such cases the hemorrhage is not usually abundant. The danger lies in the aggravation of the cystitis.

The most serious hemorrhages are those which occur from papillomatous or cancerous tumors.

Although so great an authority as Civiale seems to attach little importance to general treatment, I am sure you will agree with me that it has its utility, and should not be rejected. I would recommend the exhibition of ergot (15 to 20 minims of the fluid extract every two or three hours), or of gallic acid, dissolved in glycerine, or of quinine, with an equal quantity of dilute sulphuric acid, or of tincture of the chloride of iron, etc. All these medicinal agents have their value, and any one of them will often answer the purpose. But when the desired effect has been obtained, the dose should be reduced, and the medicine discontinued as soon as possible, otherwise the digestive organs will surely suffer.

When it happens, in cystorrhagia, that no fluid runs through the catheter after it has been successfully introduced into the bladder, it may be that a clot has become impacted in the catheter, or that the bladder is filled with coagula, and little if any urine.

What, in like circumstances, should be the conduct of the surgeon? He should withdraw the catheter, and if he find in it a clot, wash it out, or take a clean catheter and introduce that, and if there be fluid blood and urine, it will of course flow freely. But suppose the bladder to be filled with clotted blood, what then is he to do? In this there is a difference of opinion.

Chopart advises the injection of water through the catheter to break up the clots, and if they do not come away, to introduce into the distal end of the catheter the nozzle of a syringe with which to make aspiration of the broken-down clots, and cites several cases in which this was successfully accomplished. A number of his contemporaries had like successes. Howship, and also Sir Benjamin Brodie, advocated this process.

Phillips cites Leroy as having extracted a little more

than four pounds of coagula from a man's bladder, with the aid of aspiration made through a catheter which he was obliged to introduce one hundred and fifty times in the space of six hours.

Though Civiale approved of repeated injections of warm water to soften or dissolve the clots, as recommended by Verdier, he condemned aspiration. Other modern surgeons are against aspiration of the clots, but their objections are not tenable. The principal objection made is, that the removal of the clots will excite fresh bleeding either by affording a cavity into which more blood may be poured, or by allowing the plugs to escape from the torn extremities of the capillaries. They also urge that the clots do no harm, and will, in a couple of days, be dissolved by the urine. It is a misapprehension of the true state of things that has led the opponents of aspiration to condemn this practice, inaugurated as it was by some of the best surgeons of the last century. Injections and aspirations properly done, can not and will not give rise to fresh bleeding; it is the hasty removal of the contents of the bladder, as I think I have shown, that will provoke hemorrhage, and it is the very thing which every good surgeon should avoid. It is not good surgery to allow a bladder to become overdistended with blood and then to wait forty-eight hours for the urine to dissolve the clots, while the patient is in the throes of vesical distention and tenesmus. I think that in such a case the indications *for* mechanical interference are exceedingly plain. But, I repeat, the vesical contents must *never* be hastily removed, otherwise there will necessarily follow fresh hemorrhage. In endeavoring to free a bladder greatly distended with clotted blood which can not pass through an ordinary catheter, the way to proceed is to use a soft catheter with one large eye, or a metallic Mercier catheter as large as can be introduced, then to inject two or three ounces of warm borax solution (diluted acetic acid has been recommended for dissolving clots); if nothing flows the instrument should be moved gently to and fro and rotated to the right and left so as to break up the clots; then aspiration made either with a syringe, as recommended by Chopart, or with Bigelow's rubber-bag. No attempt should be made to aspirate more than three or four ounces of clots, or grumous blood, at a time. The surgeon should continue, at the same sitting, to make

alternate injections and aspirations, never withdrawing more than he has injected, so that the contents of the bladder will remain about the same, until all the blood has been removed and the returning liquid is nearly clear. After this, every hour or two hours, as the case requires, a few ounces, rarely more than eight, should be drawn off until the bladder is empty. Gallic acid or other agents can, in the meantime, be administered, and afterward the bladder may be irrigated with such astringent solutions as are necessary. I feel quite sure that such a course would not only prove efficient, but much safer than the expectant plan just referred to.—*Medical Record, Feb., 1880, p. 193.*

Skin-Grafting.

BY DR. R. J. LEVIS.

ONE of the most recent additions to surgical resources is the operation of skin-grafting.

The operation may be performed by means of a delicate knife or scissors, cutting off minute particles to use immediately in transplanting, or large pieces may be removed and these subdivided into suitable sizes for the operation. The skin may be pinched up by means of a small forcep, and the piece snipped off with the curved ophthalmic scissors. The pieces should be about the size of a grain of canary seed, or a grain of rice. Dr. Hodgen, of St. Louis, has suggested a method for removing the graft, which is painless, simple and convenient, and at the same time, very effective. It consists in merely penetrating the cuticle with a delicate sewing-needle, elevating a small point, and shaving off the minute elevation of cuticle and upper stratum of derma, by means either of a very sharp knife or curved scissors. Blood need hardly ever be drawn in this operation, or, at most, a mere discoloration is perceptible. The graft is then immediately pushed from the point of the needle, and placed on the surface of the ulcer, as I now show you, care being taken to keep the epidermic surface upward. No incision should be made into the granulations in order to insert the graft; the blood thus exuded would be liable to elevate the graft from contact with the granulations. As simple adhesions

of the graft are all that is desirable, I have sometimes, in cases of large and actively secreting surfaces, allowed them to be exposed to the desiccating influence of the atmosphere, so that the secretions should become viscid and thus hold the grafts securely in position. With the same object in view, I have allowed the ulcerated surfaces to remain uncovered, until the grafts became well agglutinated to them. All active medication to the ulcer should be avoided, and the surface merely covered with a light dressing, for protection from disturbing influences. A piece of muslin saturated with carbolized oil or cerate, or a piece of plain waxed paper, is all the dressing necessary. This dressing usually need not be removed for two or three days after the operation, unless secretion is profuse, when a stream of water may be allowed to run over it, sponging and wiping being carefully avoided.

One of the earliest changes noted in the graft, after the first few days, is the detachment of its cuticle, which may occasionally, by careful observation, be seen floating in the secretions of the ulcer, or by a slight touch it may be detached, leaving the true germinating material fixed in position. The graft, as it commences development as a germinal center, becomes so blended and identified with the granulations as to be for a time almost lost sight of, its reappearance becoming evident in a bluish or lilac-tinted pellicle, which indicates the progress of cutification.

In regard to the size of grafts for transplanting, I have, in a number of instances, grafted by removing from recently amputated limbs pieces of skin measuring one-third or one-fourth of an inch square; but such large pieces are very likely to fail in retaining their vitality, and I have found small grafts to give much more satisfactory results. The number and position of the grafts will, of course, vary in accordance with the size of the ulcerated surface, and in large ulcers they may be distributed centrally and near the periphery. Those near the circumference will stretch their granulations outward and stimulate the borders of the ulcer to activity; and, with regard to the advantage of centrally located grafts, it will be well to remember their importance with reference to the difficulty often experienced in eventually healing the last of a chronic ulcer. A large ulcer, on which grafting has been successfully performed, will soon

present islets, from which cicatrization progresses in directions of the nearest healing points, until all are joined by an interlacement of newly formed tissue.—*Medical and Surgical Reporter*, Jan., 1880, p. 52.

New York Academy of Medicine.

Stated Meeting, April 15, 1880.

FORDYCE BARKER, M. D., LL. D., PRESIDENT, IN THE CHAIR.

CONVULSIONS IN CHILDREN.

DR. A. A. SMITH read a paper on the above subject, in which he directed attention to practical points. He thought the statement so frequently met with in literature that convulsions in children, independent of organic diseases of the brain, were rarely serious, was very liable to mislead the young practitioner; for, if it was admitted that one in one hundred cases might be dangerous, the statement must be modified. He believed that *any* case of convulsions might be dangerous, and, therefore, the physician should *always* study each case carefully. Probably the age at which children were most liable to have convulsions was between six and twenty-eight months—the period of dentition. They did not occur simply because dentition occurred during that period, but in addition the nervous system of the child was then rapidly developing and was much more impressible than in adult life. Usually the tendency to disturbance of the nervous system manifested itself differently among different members of the same family. For example, if a temperature of 105° F. was developed in a child as the result of simple indigestion, it was very evident that the child possessed a nervous system that was very susceptible to the influence of slight irritation, and such a patient needed watchful care in any form of illness. Hereditary tendency was an important factor in the etiology of convulsions in children, and, in the majority of cases, the predisposition was transmitted by the mother. If, as was maintained by many good observers, diseases of the nervous system were greatly on the increase in the United States, and if it was true that predisposition to convulsions was transmitted from parents to children, the question of convul-

sions in children was more important than it ever had been. In a few cases he had been able to find a history of convulsions in the childhood of the mother. The weight of opinion was that puerperal convulsions did not leave a permanent tendency to convulsions in the child. Children with rickets were very susceptible to influences that produced convulsions. Overfeeding, undoubtedly, often produced convulsions, and they might be serious. Quite a number of cases were on record in which the child died in a convulsion, and at the autopsy no cause could be found other than a stomach well filled with undigested food. Improper feeding might also cause convulsions in children. The giving to young children a little of everything, as was often done, was calculated to do mischief. The exciting cause in a large proportion of cases of convulsions in children could be found in errors in diet. Malarial poisoning might cause convulsions in children. Dr. Smith then referred to several cases which he saw with Drs. Lente and Murdock, of Cold Spring; all were apparently of the simple form of malaria, and all recovered. It was still a question whether the convulsions in that class of cases were produced by the poison itself, or by the high temperature, or by the sudden hyperæmia of the brain, supposed by some to exist. A convulsion, occurring in the course of an acute disease, especially toward the close, was a grave symptom. A convulsion occurring in the course of whooping-cough was an unusually grave symptom, if unassociated with dentition or some disturbance in the alimentary canal. With reference to syphilis as a cause of convulsions in children, the author of the paper had found recorded cases of unmistakable congenital syphilis, in which convulsions occurred during the first three months of life; and he also referred to a case of that kind which came under his observation while an interne in Bellevue Hospital. Nervous excitability, which showed itself in a tendency to develop convulsions in childhood upon slight provocation, might, in later life, develop into epilepsy. It was fair to presume that, if a child had convulsions, and, later in life, had epilepsy, there already existed the pathological changes which resulted in epilepsy. It would seem almost impossible that functional disturbance of the nervous system could lead to such permanent changes in the central nervous system as indicated by

idiocy or permanent impairment of intellect, unless there existed, previous to the attack of convulsions, some lesion of the brain or spinal cord; and yet, upon theoretical grounds, it would seem just as impossible that such stormy outbursts as seen in convulsions should occur and not leave permanent injury. It would be interesting to know whether or not convulsions in children belonged to civilized life.

Treatment.—Dr. Smith considered the question of treatment under three heads: 1. The management of the attack; 2. Prophylaxis; and 3. The subsequent treatment.

Whatever the cause, whether due to organic disease or to functional disturbance, the convulsion should be arrested and another prevented by the administration of anæsthetics, preferably chloroform. As soon as the cause was found it should be removed if possible. If the convulsions were due to pain produced by other than causes such as the pricking of a pin, tight abdominal bandage, which could be easily removed, and an overloaded stomach, which could be easily emptied, opium was the most valuable remedy that could be used, and he would employ it if the child was *more than four months old*. The convulsions dependent on the pain of teething should be controlled first by opium, and second, the gum-lance. The effort to lance the gums before the pain was subdued by opium or a similar agent, probably would cause another convulsion. Convulsions dependent on the pain produced by worms or other foreign bodies in the intestinal canal, or errors in feeding, should be first controlled by opium, and then a cathartic should be given. Convulsions produced by worms were not always attended by pain. The cathartic and opiate might be combined with advantage. If there was reason to believe that the source of irritation was in the rectum or near it, and an enema was indicated, an opiate should be given first, and when its influence was secured sufficiently to control the convulsion, then the injection might be given.

Convulsions due to malarial poison, although not preceded by pain, yielded more promptly to opium than to any other agent. Having controlled the paroxysm, put the child fully under the influence of quinine for the purpose of preventing its recurrence. The tolerance of opium was sometimes very great in that class of cases, as well as in all others in which its use was indicated.

With reference to lancing the gums, Dr. Smith believed that if they were swollen and hot they should be lanced. Further, if it was time for the tooth to appear he believed the gum should be scarified; for the irritation was due, not unfrequently, to deep-seated pressure such as could not manifest itself upon the surface. Whatever theory might teach, it seemed to him that from clinical observation it was conclusive that lancing the gums was followed frequently with marked relief.

As in the great majority of cases opium was indicated, the mother might, with safety, be told to give the baby, *over four months old*, paregoric, with explicit directions concerning size of dose, to be repeated every half-hour until the convulsions either were controlled or a physician had arrived. If the child was under four months old, Dr. Smith prescribed a teaspoonful every hour of a mixture of bromide and chloral with bicarbonate of soda, of which each dose contained one grain of each remedy. It was conveniently given in warm, sweetened water. Double the quantity might be given every hour or two hours to children from six weeks to four months of age, according to the frequency and violence of the convulsions.

NON-USE OF THE HOT BATH.

Dr. Smith rejected the hot bath in the treatment of convulsions of children; for, almost invariably the child had one or more convulsions while in the bath—the very agitation incident to the giving of it adding to the excitement of an already disturbed nervous system. The object in treatment was to keep the nervous system as free as possible from agitation; hence, he forbade the hot bath, insisted that the child should not be restrained while in a convulsion, that it should be placed on a bed that did not squeak, that the room should be kept perfectly quiet, have plenty of fresh air, be partially darkened, contain only one person at a time, and that opening and shutting of doors should be avoided. Overactive treatment was uncalled for, if not positively dangerous.

Dr. Smith then spoke of the sedative effect of the bromides, and of the value of maintaining it in cases in which the prolonged use of opium was undesirable. He believed that the intense itching, which especially followed scarlet fever and measles, might be the cause of convulsions in young children, and in those cases the

bromides acted most favorably. In occasional cases the bromides aggravated the symptoms. Under such circumstances chloral might be used. To control convulsions dependent on high temperature he recommended veratrum viride. Its tendency to produce vomiting might be controlled by combining it with opium. Two drops of the tincture might be given every hour to a child from six to eighteen months old. If it produced vomiting no harm was done, for the pulse and temperature then usually fell and the convulsions ceased. If the remedy failed to control the convulsions, the cold bath was indicated. Coma was quite frequent in that class of cases, and the child was then in imminent danger. The temperature must be reduced, and the cold bath was the most efficient means that could be employed.

The sedative action of calomel, especially in convulsions occurring at the outset of an acute pulmonary affection, was then mentioned with favor.

Under the second head, or *prophylaxis*, Dr. Smith referred to the proper care of the mother during pregnancy, especially with reference to proper exercise, food, amount of sleep, condition of bowels, and all that pertains to diminishing the tendency to nervous disturbances in the child.

Prophylaxis in the child was suggested by a study of the etiology of the convulsions. The object to be accomplished under the third head, or treatment subsequent to the attack, was to remove causes and predisposing causes, and keep the child in the best possible physical condition.

[The paper will appear in full in the *American Journal of Obstetrics and Diseases of Women and Children*.]

Dr. J. Lewis Smith remarked that, at the Bellevue Hospital Outdoor Poor Department, he had carefully observed cases brought there during the last six years, and had been unable to convince himself that there was any connection between the convulsions of young children and epilepsy of later life. The age at which epilepsy was liable to develop was from five to seven years, but he regarded the two as independent conditions.

With reference to treatment Dr. Smith said that he had not carried a gum-lance for five or six years. He had relied upon the bromides, of potassium preferably, in large doses frequently repeated—two to six grains for a child over two months and under one year of age, repeated

every ten, fifteen or twenty minutes, according to the severity of the case—to control the irritation produced by the irruption of the teeth. In convulsions of children he gave hydrate of chloral, and always by rectal injection, and had been astonished to see how quickly the convulsive movements would cease in a child that had been so treated; the first thing noticeable being relaxation of the face, then of the arms and legs, and usually in a few minutes the convulsion had entirely ceased. He rarely found it necessary to remain with the patient more than half an hour, whereas formerly he had not infrequently found it necessary to remain several hours before the convulsions were controlled. With reference to hot water, he could not agree with the author of the paper in condemning its use in the treatment of convulsions. He believed it to be a beneficial agent, and certainly when a child was threatened with convulsions, had twitchings, etc., he would put it into a hot bath, as he had often seen exceedingly good results follow. Twenty-five years ago musk and asafoetida were used a great deal; but now that the bromides and chloral were so commonly employed, convulsions in infants and young children were regarded as much less formidable than in those days.

With reference to anæsthetics, he now never gave them in the class of cases under consideration.

Dr. S. T. Hubbard remarked that he had under observation several cases of epilepsy, and in some of them the convulsions dated from infancy; in one case the convulsions began when the child was one year old. He was inclined to believe that in some cases there was a direct connection between the convulsions of infancy and epilepsy developed later in life.

As to the opium treatment, referred to by the author of the paper, he was afraid to use opium in the treatment of disease occurring in children. He remembered the directions given him by Dr. Beck; namely, never to give opium to a child under four or five years of age. He had used the bromides and chloral in the treatment of convulsions of children, and with good success.

He had frequently used chloroform and had not feared the dangerous results of which Dr. J. Lewis Smith had spoken. He agreed with the author of the paper that anæsthetics were beneficial in arresting the convulsions.

With reference to the hot bath, he had discontinued its

use, in the ordinary sense of the term, but had used hot water with good effect in the following manner: Strip the child, then wrap it in flannel that had been wrung out of hot water, and over that place a dry flannel blanket. The idea was to increase the action of the skin without producing shock, and all the good effects of the hot water were obtained as well as they could be by means of the bath. When called to a case his first inquiry usually was: "What has the child been eating?" The usual answer was: "Nothing of account." But, on close inquiry, insisting that the articles of which the child had partaken should be mentioned, he not infrequently found sufficient to account for the occurrence of the convulsions. He was inclined to the opinion that in a large proportion of cases, perhaps nine out of ten, convulsions in young children were due to errors in diet.

Dr. J. L. Campbell, on invitation, remarked that he was heartily in sympathy with the author of the paper in the opinion that the hot bath was not only not beneficial, but he believed it was positively injurious, inasmuch as it prevented the *sine qua non* in the treatment of convulsions; namely, keeping the nervous system perfectly quiet. The author of the paper had referred to malaria as a cause of convulsions, and he had no doubt that malaria did frequently produce convulsions in children. The author had spoken of the convulsion, in such cases, as taking the place of the chill. He, however, was inclined to believe that it was the result; the chill causing sudden hyperæmia of the nervous centers.

Dr. M. Blumenthal thought that, in the great majority of cases of convulsions in children, it would be found there was some disturbance of the vascular or nervous tissue, and that the nerve-centers were in the condition either of anæmia or congestion. He favored lancing the gums, and related the following case as bearing upon that point: He was called to see a child severely sick with pneumonia, and it had also had convulsions, which he thought depended upon some other cause than the pulmonary disease. He examined the child's gums, found them swollen, filled with blood, and suggested that they be lanced. The attending physician lanced the gums and the convulsions ceased at once, after having continued for twenty-four hours.

Dr. Richards also favored the use of the gum-lance.

Cholera—A True Neurosis.

BY HENRY RAYMOND ROGERS, M. D.

IN the study of this mysterious disease, physicians in all the ages have been but too apt to allow themselves to be guided by the literal evidences of their senses, and the superficial appearance of things.

The prominent symptoms disclosed by the *primæ viæ* have caused those parts to be regarded as the primary location of the disease. Nothing can be more erroneous in fact or more misleading in practice. It is, therefore, not surprising that every form of treatment employed, until a recent period, has resulted in failure. Success in its future management must, therefore, depend upon a better appreciation of its intimate nature, and a truer conception of the mode of its operation upon the human system.

The fact that this disease is capable of making its invasion and proceeding to a fatal termination in the space of twenty or thirty minutes, is conclusive evidence against the theory of germs, decompositions, or specific poisons. We are thus led to regard it as a true neurosis.

A careful review of its prominent symptoms abundantly sustains this conclusion.

The distinguishing characteristic in this disease is the *reversal of the action of the mucous surfaces of the stomach and intestines*. The normal action of those surfaces is to take up the fluid contents of those organs, and to convey the same on their way to the systemic circulating current in the blood-vessels. In this disease this normal process (termed endosmosis) gives place to a *reverse current*, in which the watery element of the blood passes with greater or less rapidity *into those cavities*. This element constitutes the so-called rice-water evacuations.

These transudations into the stomach and intestinal canal in their profuseness and painlessness, can by no possibility occur, except that the *nerves*, whose office it is to preside over the parts implicated, fail to perform their functions in a normal manner. No fluid, however attenuated, can make its way through the walls of the blood-vessels while the latter preserve their integrity. Thus the unlocking of the exhalent orifices of the blood-vessels, *permitting* the rapid filtration into the stomach and in-

testinal canal of the finer elements of the blood, and sometimes of the blood itself, *is a positive evidence of perturbation in the action of the nerves which supply the vessels and membranes through which the infiltration takes place.*

The *cramps* arise from purely nervous causes; the *vomiting* is simply regurgitative; *collapse* may occur from the initial force of the disease, although most frequently due to the diminished volume of the vital current. In rapidly fatal cases the disease expends itself wholly upon the *brain* and *nervous system*, and death occurs before other organic changes *can* have taken place. After death no constant and uniform changes are found in the fluids or tissues of the body which can be regarded as the cause, or the products of the disease.

We may, therefore, consistently ignore all previous theories, and discard all forms of treatment which have been so fruitless in results, and seek some other philosophy which shall better account for the conditions observed, and some other treatment which may prove more successful.

In viewing this disease from a neurological standpoint, the treatment emerges from the pure empiricism which has ever characterized it and becomes thoroughly scientific. It also becomes the perfection of simplicity.

In the treatment of this disease there are two great and leading indications to be observed. First, to change the perturbed condition of the nervous system, and thus shut down the flood-gates through which the life ebbs away; and second, to ward off the effects of the exhaustive drain upon the vital current. The first may be accomplished by the hypodermic injections of morphia, and the second by position.¹

It can not be too firmly impressed upon the professional mind that the rapid diminution of the volume of the blood, through exudation, is attended by the same results which follow a true, active hemorrhage. From the commencement of this disease this exudation is in progress in a manifest, or a concealed form, and with greater or less rapidity, and *demands the precautions and treatment due to active hemorrhage.*

In the hypodermic form of medication there is certainty of retention of the remedies employed and promptness and efficiency in their action—a very marked contrast

with all other forms of treatment which have ever been employed. The commendation of this method by those who have employed it is expressed in the strongest terms. The reports of cases thus treated in Asia, Europe, Australia, and in various portions of our own country, show almost uniformly favorable results.

The following treatment was employed with successful results in my latest cases—twelve in number—the most of which were grave and typical:

(1.) The hypodermic use of morphia, administered according to the age and condition of the patient, usually in quantity of one-eighth to one-quarter of a grain, and *not* frequently repeated.

(2.) The horizontal position, or with the head lower than the body.

(3.) *For the mouth, nothing but ice*, and that *ad libitum*. When this can not be obtained, the coldest water may be given, and frequently repeated, in small quantities.

(4.) External heat, frictions, etc.

The following case, as illustrating the above treatment, may be deemed *apropos*: Mr. T. was seized at midnight, and at early morning was found to be on the verge of collapse. In his condition of almost complete exhaustion, with pulse almost imperceptible, the use of morphia was contra-indicated. The first duty, therefore, was to stimulate the brain and heart to action by sending to those organs a current of blood by gravitation. The head was quickly placed many inches lower than the body and extremities, and the other measures resorted to. At the end of one hour the pulse had perceptibly improved, and a quarter of a grain of morphia was hypodermically administered. The inclined position was continued several hours. The result was favorable.

The same treatment applied to cholera morbus is also prompt and favorable in its results.—*Hospital Gazette*.

Combination of Iron and Chloride of Ammonium in Heart Disease.

In the *Practitioner*, Prof. T. Grainger Stuart cites a case of cardiac disease, and adds these general remarks:

This case afforded an example of a condition by no means uncommon, but of which I have been unable to

find a satisfactory description in books. The first glance at the patient leads one to notice the pallor, the very anxious expression, the restlessness, the pale lividity of the lips, the throbbing of the carotids, and perhaps of the temporal arteries: while the patient complains of giddiness, perhaps of headache, certainly of breathlessness, and of a debility that amounts at times to faintness. He is somewhat relieved by food, and unless there is some dropsical effusion to prevent it, he is easier in the recumbent position. But he obtains very little sleep. The explanation of his various symptoms is readily found. The pallor and the head symptoms are due in part to anæmic deterioration of the blood and partly to imperfect filling of the arteries supplying the face and brain. The throbbing is due to the ill-filled condition of the arteries, contrasting with their sudden temporary filling during the ventricular systole; while the breathlessness and the lividity are connected with the dilatation and the partial failure of the heart's action. Sometimes the distress is aggravated by the existence of dropsical effusion, and it seems to be specially severe when the pericardium is its seat. Such cases sometimes prove rapidly fatal by sudden syncope, and sometimes death follows upon a long agony, characterized mainly by symptoms of cerebral anæmia. These cases do not seem ever to recover spontaneously.

Treatment by the administration of cardiac tonics, and especially of iron, leads in many cases to decided improvement. The form which I find best is the tincture of perchloride, but it must be given in large quantity. I have gradually been led to give it in larger doses; sometimes even to the amount of twenty minims every two hours, more frequently every four hours, continuing its use for days together. In many cases the patients speedily experience relief, and before long there is manifest improvement. As in the patient whose history I have given, they are enabled after a time to leave the hospital and return to work.

But there is great difficulty in carrying out this plan of treatment, from the gastric and hepatic derangement which so frequently follows upon the use of iron. During the past two years I have sought to meet this difficulty by combining chloride of ammonium with the iron, $\frac{1}{2}$ gr. to each minim of the tincture. During that time I have repeatedly been thus enabled to administer iron in large

doses in combination with chloride, to patients who otherwise could scarcely have used iron. It will be observed that in the case now recorded the iron speedily led to dyspeptic symptoms, so that it was impossible to persevere with its use. But the addition of the chloride both relieved the existing dyspepsia and enabled us to continue to administer the iron in large doses, and for a considerable time. So far as I can judge, iron is the only remedy which could have saved the life of the patient at the time.—*Med. and Surg. Rep.*

Administering Medicine by the Lungs.

THERE are several ways in which medicines may be administered into the lungs—by inhalation with steam, as atomized fluids, by insufflation, or by fumigation with powders, prepared so as to burn freely in the air, or, lastly, by smoking. The simplest and surest method is, in the opinion of Dr. Thompson, the use of paper soaked in a weak solution of nitre to make it burn continuously, and dipped afterward in the tinctures or solutions of the drugs to be tested, the paper being rolled into cigarettes of uniform size. In order, however, to disguise the odor of burnt paper, a little tincture of tobacco is used, as in the following formula, which represents the basis for each cigarette: Swedish filtering paper, size 4 in. by $2\frac{1}{2}$ in.; potassæ nitratis, $\frac{1}{4}$ gr.; tinct. tabaci, *mx.*; olei anisi, $m\frac{1}{8}$ (tincture of tobacco made with $2\frac{1}{2}$ ozs. of the leaf to a pint of spirits). A solution of any drug can then be prepared, and the paper having been floated through the solution, in a flat dish, when dry can be cut into a certain size, and the dose then accurately measured. Opium was the first drug experimented with, and one-eighth of a grain of the drug was the dose at first tried; but it was soon found that the effects produced by smoking this quantity were too intense, and it was at last discovered that one sixty-fourth of a grain of the extract of opium was sufficient for an initial dose. Cigarettes with this quantity of opium were smoked by Dr. Thompson and three other healthy men, and in a few minutes a decided effect of dizziness was produced. The cigarettes were smoked in the ordinary way, the smoke being partly rejected; but if the full effect of the dose be desired, the smoker should be instructed

to expand the lungs with full inspiration, and retain the smoke in the lungs. In the case of one healthy man the dose was increased to one thirty-second of a grain of the extract; but this, together with the same dose of stramonium, caused too much and too prolonged dizziness. Dr. Thompson cites several cases in which the smoking of these cigarettes appeared to have been followed by the most satisfactory results. In one case so small a dose as the two-hundredth of a grain of opium procured many hours of sleep, a result which far surpasses that obtained from the subcutaneous injection, a mode of administration "which has hitherto been looked upon as likely to give the most concentrated results."—*Med. Press and Circular*.

MICROSCOPY.

Aperture of Powell and Lealand's New Formula μ -8 Immersion.*

I AM much obliged to Dr. Edmunds for the very frank manner in which he has admitted the mistake I pointed out in his paper in the *Monthly Micro. Journal* (August, 1877.)

The courtesy of Dr. Edmunds' reply induces me to ask him further information concerning the aperture of Powell and Lealand's *new formula* $\frac{1}{8}$ immersion. In the paper above mentioned he stated the aperture of this lens to be 140° . If he attempted to measure the aperture by the old-fashioned sector method (this is, in air), how did he get 140° ? I have attempted to measure mine by that method, but could get no determinate limit, save 180° of arc, *i. e.*, 90° on either side of the optic axis, which proved (as it should theoretically) that the method was not available for such a lens. Again, 140° measured in this manner would be equivalent to about 0.9 of "numerical aperture;" so that if Dr. Edmunds was then accurate, the numerical aperture of the lens was about 0.9. But he now states the numerical aperture is 1.12. Will he explain the discrepancy?

Dr. Edmunds mentions his $\frac{1}{4}$ and $\frac{1}{8}$ immersions, by

* The three articles which follow one another are taken from the *English Mechanic and World of Science*, of London.

Tolles, of America, as the finest water-immersions he has seen; indeed, if I am not mistaken, a sort of testimonial letter of his to this effect has been advertised on the cover of *Phin's American Journal of Microscopy*. Are not these lenses the same that the Rev. W. H. Dallinger criticised in detail in a letter published in that journal about eighteen months ago? Mr. Dallinger then stated that neither of the lenses were so good as equivalent immersions by Powell and Lealand, especially when tried on his most difficult Bacteria with very strong oculars. I suppose we may accept Mr. Dallinger as a competent critic of microscope objectives.

AKAKIA.

Chromatisation of Light by a Glass Plate.

I WILL readily forgive Dr. Edmunds' *mauvaise plaisanterie* provided he will, in the end, favor us with some real information on optics.

It seemed to me probable that as the point in discussion was the chromatising influence of a microscope slide having parallel faces, Dr. Edmunds, intent on proving the "chromatisation" *de par tous les diables*, had coined the term "parallel-sided prism" because of its sound. The word *prism* in optics is so absolutely identified with the chromatisation of light, that any term into which it enters *sounds* as though it must chromatise. But the term *plate* in optics is *not* identified with chromatisation. If, then, Dr. Edmunds could, by any process, twist the term *plate* into an expression involving the word *prism*, his purpose would be gained—the chromatisation would appear naturally to follow because of its sound. "Parallel-sided prism," as every one will at once admit, sounds as though it would, from its very nature, chromatise. The term might therefore be foisted into the discussion as the equivalent of "plate" in optics to serve the purpose of the contention.

I regret that Dr. Edmunds shirks the task of demonstrating wherein Griffin, the eminent writer on optics, is "wrong" in stating the conditions of achromatism.

H. M.

Chromatisation of Light by a Glass Plate.

DR. JAMES EDMUNDS demurs to Griffin's definition that the "emergence of the rays at the second surface in a direction parallel to each other is the condition of achromatism." Dr. Edmunds states that this definition of Griffin's is "wrong," on the ground that "it is obvious that a parallel plate might be so thick that the rays on emergence at the second surface, though returning to a parallel (*sic*), would be completely separated into a spectrum, and, if so, they would not be so reunited."

On this I would observe that the matter in discussion is the chromatising effect of a thin plate of glass—a microscope slide, as given by Dr. Edmunds himself in the *Monthly Microscopical Journal*. The chromatisation originally referred to by Dr. Edmunds was stated by him to be produced by refraction through an ordinary microscope slide. The thickness *then* in question was clearly of that degree to which he has more recently referred as "negligible," but he now seeks apparently to gloss over his original mistake by citing as an example of a parallel plate a thickness that has absolutely nothing to do with the question.

As one of the many readers of the "E. M." who have to take their knowledge of optics from published treatises, and who have not the means of putting such matters to the test of experiment, I would ask Dr. Edmunds to favor us with a refutation of Dr. Griffin—if he can. I am aware that writers on optics have been in the habit of copying from the treatises of their predecessors most of what are supposed to be elementary propositions; but, strangely (as it would appear if Dr. Edmunds' statement that Griffin is "wrong" in this definition of achromatism), this very definition of achromatism in relation to a parallel plate can be found either expressly stated or legitimately deduced from the optical propositions enounced by the following authorities: Sir Isaac Newton, Smith, Emerson, D'Alembert, Euler, Clairault, Boscovich, Biot, Amici, Arago, Pouillet, Fresnel, Sir John Herschel, Barlow, Sir G. Airy (Astronomer Royal), Coddington, Sir David Brewster, Baden-Powell, Moigno, Wood, Schacht, Daguin, Ganot, Houghton, Potter, and, lastly, Parkinson, whose work is based on Griffin's.

If Dr. James Edmunds has made a discovery in the

laws of the refraction of light that has escaped the notice of these writers, and will give his demonstration a mathematical form, I am sure that even mathematicians—essentially conservative as they are—will give his demonstration the consideration it merits.

There is another point in Dr. Edmunds' letter that requires elucidation. He says "it may be demonstrated that the action of a parallel-sided prism, *such as a glass plate*, is identical with that of a triangular prism."

How has he arrived at the expression "parallel-sided prism?" I have never met with it before. A prism is defined by Parkinson as "a portion of a refracting medium bounded by two plane surfaces *inclined* at a finite angle to one another." A plate is defined as "a portion of a refracting medium contained between two parallel plane surfaces."

How does Dr. Edmunds "demonstrate" the "identity of action" of the *prism*, and of the *plate*? The optical treatises I have referred to all give demonstrations of their *non-identity* of action; but, perhaps, here again Dr. Edmunds has made an important discovery, and can refute the accepted laws of optics.

This question needs no reference to the immersion paraboloid, nor to "fog" or "ghost-images;" neither is it necessary to speak of anything, save the principles of optics, which can either be demonstrated geometrically or *ignored*. Dr. Edmunds may therefore enlighten us or not. He says he thinks that "any competent reader will indorse his opinion of what takes place," and thereupon follows what appears to me mere verbiage about "emergent rays being *reassorted* in their refracted journey through the glass," about "the cross-fire of bands of differently refrangible rays within the glass," producing "a large amount of *interference* which *kills out* some of the light, and 'damages' that which survives to emerge at the second surface."

I can not imagine where Dr. Edmunds picked up this sort of discursive matter. If it has any meaning I am very glad; but has it anything to do with the question?

H. M.

Microscopical Society.

THE regular semi-monthly meeting of the San Francisco Microscopical Society was held at their Rooms, March 18, 1880, at which the prompt appearance of members gave evidence of their increasing interest in microscopical science; President Kinne in the chair.

A donation to the Library was received from the Royal Microscopical Society of Great Britain, and a mounted slide of diatoms from Vice-President Norris, of earth from Virginia City, Nevada, was added to the Cabinet. Mr. Norris reported that the earth contained melosira and navicula. Mr. Norris also exhibited a slide of some earth lately received from San Luis Obispo, Cal., which, from a cursory examination, he thought was similar to the celebrated Santa Monica earth. He was requested to make a careful examination and report at a subsequent meeting. Samples of the earth were also sent to Professor H. L. Smith, of Hobart College, New York, for his examination.

Should this earth prove to be of the same composition as that discovered near Santa Monica, by Mr. Woodward, it will be of the greatest interest to microscopists, as the Society has received a large number of applications, from all parts of the world, for samples of it. The material, purchased by Dr. Mead Edwards, for microscopical uses and examinations, has been removed from the storehouse to the Society room, where it will be arranged and made available for use. Besides 3,000 mounted specimens on glass slides, the purchase contains diatomaceous earth from nearly every country on the globe, besides thousands of phials containing dredgings and marine aglæ upon which diatoms are found.

The members of the Society have purchased this material at their own expense, and, in scientific circles, are credited with their commendable zeal; a New York scientific journal declaring that the publications of the Society, by its first Secretary (Colonel O. Mason Kinne), "*did more to foster microscopy than any other literary agency in the country.*"

At this meeting Dr. Mouser read a letter from W. A. Abel, Esq., of Syracuse, N. Y., and his report upon the subject-matter brought out some interesting information

on the subject of monomania. After an interchange of opinions upon various scientific topics of the day, the Society adjourned.

GLEANINGS.

HEMORRHAGIC DIATHESIS—CHLORATE OF POTASH.—In the hemorrhagic diathesis, which is characterized by a diminished proportion of fibrin, a soft clot, an absence of the buffy coat, accompanied with a delicacy of structure in the capillaries and minute vessels, a remedy is required that shall increase the fibrin, add to the plasticity and chemico-vital elements of the blood and restore its coagulating power, as well as the contractile action of the capillaries; and thus destroy the dyscrasies, in which a slight wound may lead to excessive hemorrhage, a trifling contusion to extensive extravasation. That this salt, whether given alone or in combination with iron, possesses the very desirable property of controlling the various developments of the hemorrhagic diathesis, and that its persevering administration will neutralize the constitutional taint on which these ailments depend, Dr. Hawkin, Belfast, hoped to establish by the relation of satisfactory cases, selected from an experience of its value extending over more than twenty years' observation. He generally ordered the medicine in the form of one ounce of a saturated solution three times daily—one ounce of the salt to a pint of water; and, if iron be required, an addition of one drachm of the muriatic tincture to the solution completes the mixture. Administered in this proportion, Dr. Hawkin had had the greatest satisfaction in the treatment of epistaxis; in hemophilia; in hemorrhage from the bowels, from the kidneys, from the lungs, from the stomach; in menorrhagia; in scurvy, and in purpura hemorrhagica.—*British Med. Jour.*

HEADACHE—PATHOLOGY AND TREATMENT.—Dr. Day, in a clinical lecture delivered at the Samaritan Hospital, considers the various forms of headache, and their appropriate methods of treatment. Headache occurs in cases of anæmia and in hyperæmia. In headache from cerebral anæmia the pain is referred to the top of the head, which often feels hot and burning; while in headache from hy-

peræmia the pain is frontal, throbbing and bursting. Dr. Day further distinguishes in headache common to both sexes a sympathetic variety due to some eccentric cause of irritation; nervous headache, caused by temporary derangement of the nervous centers; and neuralgic headache. Headache also arises from menorrhagia and from the action of poisoned blood upon the nerve centers; organic headache is brought about by morbid changes within the skull. Headaches are of frequent occurrence in children, and, if persistent, are very significant, and should invite more serious attention than a similar disorder in the adult. As to the treatment of headache, Dr. Day advises as a preliminary step a diligent search after the cause of the disorder, which, when found, should be removed as speedily as possible. The remedies to be used are tonic or calmative as the case may require. If the brain be over-excited, bromides of potassium and ammonium, chloral hydrate and morphia as a hypodermic injection or in other form, may be used. The morphia combined with an infinitesimal dose of atropia, and used with care, has been found to be an invaluable remedy, even in cases of organic disease. In nervous headaches a stimulating emetic of sulphate of zinc, mustard or ipecacuanha, will act like magic, as will also a mustard-leaf at the back of the neck, the feet and legs being at the same time put into hot water. In the neuralgic variety tonics are serviceable, especially cod-liver oil, phosphorus, quinine and arsenic. The local application of aconitina ointment is serviceable in that form known as brow-ague. As a general treatment it is recommended to elevate the head at night, and to make use of a hard pillow. In every case the first principle to inculcate is rest.—*British Med. Jour.*

DIGITALIS—HOW TO USE.—M. Simon, *Hop des Enfants*, Paris, observes: Organic affections of the heart may manifest themselves under two forms, entirely different, which distinction it is necessary to have constantly in mind if you wish to give digitalis with advantage, and avoid its use where it may not only be of no benefit but even injurious. When the contractions of the heart, although irregular and unequal, are yet quite energetic, the pulse strong, the palpitations frequent and violent, especially when visceral congestions, accompanied with cephalic troubles and epistaxis, are present, you will give digi-

talis—not as a heart tonic, but as a heart moderator; and you must give it in comparatively large doses. When, however, the contractions of the heart are feeble and abortive, the pulse small and filiform, accompanied with a tendency to passive congestion, pulmonary engorgement, cyanosis, of a more or less permanent character; in cases in which the heart is dilated without being hypertrophied, or has undergone fatty degeneration, if you administer digitalis it must be with the greatest caution and reserve, and only as a tonic—that is to say, in very small doses, and its use suspended as soon as possible. When, which is a rare thing with children, organic affection of the heart is complicated with œdema, albuminous urine, pleuritic effusion, or ascites, you may confidently expect the best results from the diuretic effects of the remedy, with the diminution of these effusions. You would, however, err, if in many of these cases you persevered in the administration of the remedy until you had accomplished the above results, for you will frequently see diuresis occur after the suppression of the drug, which, if continued, would have lost its action, or even produced results quite contrary to your expectations. At the same time, we can not too much insist on your using vigorously all additional means calculated to sustain the strength of your patient, such as massage, frictions to the surface, with or without the use of alcohol, repeated several times a day, and which will aid much in stimulating the capillaries and promote venous circulation.—*Ohio Med. Recorder.*

TREATMENT OF INFANTILE CONVULSIONS.—Dr. Charles Bell, in *Edinburgh Medical Journal*: The first object in the treatment of convulsions is to allay the spasm, and to restore consciousness. This is generally effected by means of a hot bath, and at the same time applying some pungent substance to the nose, such as ammonia. Should these not be effectual in restoring sensibility and overcoming the convulsions, we must have recourse to the application of chloroform. Having overcome the convulsions, we should then endeavor to remove the cause, which is most commonly something irritating the alimentary canal. If the child has recently taken a full meal, an emetic ought to be given as soon as the patient is able to swallow, and the best kind under the circumstances is

a full dose of ipecacuanha according to the age of the child. If the bowels are constipated, an aperient should be given, either of calomel or castor oil; but as it is important that the bowels should be moved quickly, an enema or a suppository should be administered without delay. Cold should be frequently applied to the head if there is much heat, while the feet are kept in warm water, or mustard poultices should be applied to the calves of the legs. If there is much excitement in the circulation, leeches may be applied with advantage, although M. North prefers venesection or cupping, as he says that he has never seen a well-marked case of congestion removed by leeches. But the use of the lancet or cupping-glasses is very questionable in young children, from the certainty of producing crying, which inevitably increases the congestion. Some authors have advised the use of opium and blisters, but such remedies are extremely hazardous in very young children. If the child is teething, and the gums seem red and swollen, they ought to be scarified. If there is reason to suspect that worms are the cause, turpentine should be given in milk, or it may be given in the form of an enema. After the attack is over, bowels should be kept regular by mild aperients, and the most useful are moderate doses of rhubarb, and potash, which, besides regulating the bowels, will act as a diuretic. Change of air and the use of small doses of chalybeates, along with light and nourishing food, will be very beneficial.

Prognosis. When the fits are moderate and of short duration, and the natural cheerfulness and lively expression of countenance soon return, the case may be considered extremely satisfactory; but if the convulsions are long continued or of frequent occurrence, and the child continues to be dull and heavy, with an anxious expression of countenance, there is reason to apprehend great danger.

ENDOCARDITIS—IMMEDIATE AND PERMANENT TREATMENT.—Dr. Milner Fothergill read a paper on this subject before the Harveian Society of London, in which he pointed out how in many cases the treatment which gave immediate relief was not that to be continued in the permanent interests of the patient. He instanced first the free use of opium in the hacking cough of phthisis and in chronic bronchitis, which gave immediate relief, but did harm eventually. Then in the diarrhea due to impacted masses

in the rectum, astringent mixtures might give immediate relief, but they were not curative, while removal of the masses was. So, too, in neuralgia, the injection of morphia eased the pain for the time, but, if continued, was more likely to confirm it than to cure it. Likewise in dyspepsia of reflex origin, its cure depended upon the removal of the exciting cause. In gout, the application of cold or of leeches gives instant relief, but he quoted Garrod in illustration of the evil consequences which followed such treatment. But of all instances of the conflict between the present and the permanent treatment of disease, that furnished by endocarditis was, he said, the most striking. It was the rule to give tonics as soon as possible and to get the patient up, but he contended the proper plan of treatment was to keep the patient flat in bed for some days after all evidence of active mischief had passed away. The growth of connective tissue in the valve-curtains, which was lighted up by the inflammatory storm that passed over the endocardium, persisted some time after the endocarditis itself was over, and it was the mutilation caused by the contraction of the neoplasm which was chiefly to be dreaded. Consequently the true line of practice was to reduce the strain upon the inflamed valve-curtains by complete rest and the administration of agents which lowered the blood-pressure within the heart and arteries. The more the connective-tissue growth could be limited at the outset, the less the future mutilation of the valves.—*British Med. Journal.*

LUNAR CAUSTIC IN THE TREATMENT OF OPHTHALMIA.—Dr. W. A. Macnaughton writes to the *Medical Times and Gazette*: There are certain inflammatory conditions of the eye which, owing perhaps to constitutional causes, are often very perplexing in their treatment. There is, for example, no complaint of its kind more obstinate than the scrofulous ophthalmia of children. In these, and in all cases where the simpler remedies have failed, I would recommend the application of the solid nitrate of silver to the supra-orbital surface as a speedy means of cure. Seeing that the remedy is applied in close proximity to the affected organs, it will be admitted that this is a more rational mode of relieving ocular inflammation than the distant counter-irritation behind the ears recommended in the more obstinate forms of this disease. As a matter

of fact, I have observed excellent results in cases where the irritation and intolerance of light had persisted for months. The mode of application is simple. The caustic point is firmly applied over an inch or so of the previously moistened integument above the affected eye, but when both are concerned, I cauterize a narrow strip across the whole supra-orbital region. This causes a slight smarting sensation at the time, which soon passes away. The stain which results can readily be removed afterward with a strong solution of iodide of potassium. It is advisable, while this treatment is being progressed with, to exclude the light from the eyes by means of a shade.

PUMPKIN SEED PASTE CAPTURES ANOTHER TAPEWORM.—It was the first time in a practice of twenty-five years that I had been called upon to prescribe for a tapeworm, consequently had no favorite prescription at hand. The patient was a lady, who enjoined upon me the strictest secrecy in regard to her affliction, as well as requesting me to obtain the medicine at the drug store, for she feared the druggist might suspect the nature of her trouble. This gave me an opportunity to consult my library and look over the literature of the last twenty years as it is spread out through the journals. I there found the chief remedies to be male fern, kusso, kamela, turpentine, panna, pumpkin seeds, bark of pomegranate root, sulph. ether, creosote and carbolic acid. Each had its advocates who had succeeded with it after failing with all the rest. Some succeeded only when they combined two or three together after failing with each separate, but nearly all agreed in their preparatory treatment; that is, to abstain from food for twenty-four hours, and give a brisk cathartic to remove as much as possible the slime and mucus which envelops the worm.

I had read Dr. Pratt's description of his struggle with a tapeworm, which brought the pumpkin seed treatment very prominently before my mind, and I resolved to try it. So I procured about two ounces of seeds, had them deprived of their shucks and beaten into a paste with a little fine sugar. I then directed my patient not to take any breakfast or dinner, but in the afternoon to eat all the pumpkin seed paste she could swallow; but, in order to make more sure, I directed, in addition to this, that she should take twenty drops of the oil of male fern in two

ounces of milk at bedtime and a like dose in the morning, to be followed in two hours with a dose of castor oil and turpentine; but she called again in the evening to tell me that on account of some necessary business she had to do, she had concluded to wait another week before going through with the treatment prescribed; but she had already taken about one-third of the paste. So I advised her to take the oil and turpentine in the morning, as had been directed, thinking what paste she had already taken might do some good; but, instead of following my directions, she took a dose of sulph. magnesia, and soon after had the satisfaction of capturing the whole worm, head and all, over twenty-five feet in length. It is needless for me to add that my next patient with tapeworm will surely get a prescription for the pumpkin seed paste.—J. B. White, M. D., in *Detroit Lancet*.

AN ADVANCE IN THERAPEUTICS.—The editorial corps of the *Chicago Medical Gazette*, and especially Dr. Clevenger, have been carefully investigating the chemical and physical behavior of the mercurials. The conclusion arrived at seems to be, stated broadly, that all of these preparations not originally simply mixtures of metallic mercury with other substances are reduced completely in the organism, giving rise to millions of minute globules of mercury which are pushed and float about in the circulating fluids of the body. These statements are not put forward simply as the legitimate deductions from a theory, but as facts ascertained by actual examination of the blood of animals to which calomel or other mercurials had been given, by microscopes of high power. In the case of the simple mixtures of metallic mercury, as blue mass, mercurial ointment, etc., the metal enters the circulation in obedience to physical laws, and in accordance therewith wanders about throughout the organism until it is finally expelled in the same simple condition in which it entered. The authors endeavor to explain its therapeutic action by its physical properties; but in this respect we think their explanation hardly satisfactory. Their philosophy on this point is in substance that the globules of mercury by their gravity and mobility push morbid matter through the capillaries, thus preventing its lodgment and securing its destruction by oxidation in the blood or its elimination by the excretory organs.—*Chicago Pharm. and Chemist*.

HOW TO GARGLE THE THROAT.—Dr. Lowdenberg, whose contributions on “Adenoid Tumors of the Naso-Pharynx” to our columns last year attracted attention, recommends the following method of gargling the naso-pharyngeal cavity. The patient inclines the head horizontally backward, and performs movements which we may call “quasi-deglutition,” not including this last portion of this physiological action, definite swallowing. The liquid is passed much higher behind the soft palate than the ordinary method of gargling will permit. Some persons succeed so well in this maneuver that they are able to eject by the nose the liquid which has been received by the mouth. Moreover, these rapid muscular contractions completely detach the abnormal secretions, which can then be easily expelled, and the greatest possible relief is thus given to the patient. Another method is to fill the mouth with the tongue; this confines the gargle to the pharynx. The head should then be bowed in a forward direction until the top of the cranium is its lowest portion. In this position the gargle will not only wash the roof of the pharynx—giving a sort of sitz-bath, as it were—but if the patient have caught the trick, will flow forward through the nose.—*London (Eng.) Med. Press and Circular.*

HAY-FEVER—HOW TO CURE FITS OF SNEEZING.—During the recent rapid changes of temperature, I caught severe cold in my head, accompanied by almost incessant sneezing. My unfortunate nose gave me no rest. The slightest impact with cold air, or passing from the outside air into a warm room, equally brought on a fit of sneezing. In vain I snuffed camphor and pulsatilla; the light catarrh still triumphed over me. At length I resolved to see what the maintenance of an uniform temperature would do toward diminishing the irritability of my Schneiderian membrane, and accordingly I plugged my nostrils with cotton wool. The effect was instantaneous; I sneezed no more. Again and again I tested the efficacy of this simple remedy, always with the same result; however near I was to a sneeze, the introduction of the pledgets stopped it *sur le champ*. Nor was there any inconvenience from their presence, making them sufficiently firm not to tickle, and yet leaving them sufficiently loose to easily breath through. This is really worth knowing; for incessant sneezing is among the greater or smaller ills; and it seems

only a rational conclusion to hope that in this simple plan we may have the most efficient remedy against one of the most distressing symptoms of hay-fever.—S. M. Bradley, in *British Med. Journal*.

MODEL SCHOOL-HOUSES—PRIZE GAINED FOR A CALIFORNIA PLAN.—The *Sanitary Engineer*, a valuable New York periodical, offered a premium for the best plan of a school-house for 800 pupils. The referees, who were gentlemen of the first standing as to capacity and fairness, examined nearly one hundred plans, and awarded the first premium of \$250 to Arthur T. Matthews, of Oakland, California. The report of the committee contains the following description of the plan of Mr. Matthews: "Light and air are supplied from a rear interior court, which communicates by two archways with the street, and thus insures a constant circulation of air throughout the interior of the building. As there are no openings in the side-walls, there is no chance of fire or contagion being conveyed from adjoining houses, or of annoyance from neighboring nuisances. Above the second floor there are really two distinct buildings, and this would be another cause of security from fire, as well as a means of isolation. The very best light is also thereby secured, both for the assembly-room and for all the upper class-rooms. The assembly-room is located on the second floor, and much ingenuity is shown in utilizing its space to accommodate the pupils. The water-closets are placed in the basement, which is objectionable. The class-rooms are not too large, and are accessible."—*Pacific Med. Jour.*

DEATH FROM CHLOROFORM.—A death from chloroform inhalation at Tucson, Arizona, is reported. The patient had injured his ankle, and gangrene resulting, amputation was determined on, during which he died suddenly, whilst under the influence of the anesthetic. It would appear that the fatality from chloroform inhalation has much increased and continues to increase. Observers have ceased to enumerate the cases. As a general rule, there is no reason to charge the fatality on carelessness or imprudence—unless indeed the use of the anesthetic be regarded as in itself imprudent; and to this conclusion the profession all over the world appears to be gradually tending. If there is in practical medicine a fixed fact, it

is that ether is much safer, and not only so, but that its use is almost absolutely free from danger. All that can be said in favor of chloroform is that it is rather more agreeable or more prompt in its action, and therefore more easily administered. But the skillful manipulation of ether largely diminishes the force of this objection. As to the argument of cheapness, it should have no place in a question of life and death.—*Pacific Med. Jour.*

EXTERNAL TREATMENT FOR NIGHT SWEATS.—Dr. T. H. Currie, of Lebanon, N. H., writes:

For over thirty years I have used the following prescription without a single failure in sweats from whatever cause. In one case a neighboring physician was poisoned while dressing a mortified finger. He suffered untold misery and was drenched with perspiration for a number of days and his life despaired of. When I saw him I ordered him to be bathed immediately and repeat once in two hours. The third application stopped all perspiration, and convalescence commenced at once:

R. Alcohol, Oj; sulphate of quinine, 3j. M. Wet a small sponge with it and bathe the body and limbs, a small surface at a time, care being taken not to expose the body to a draft of air in doing it.—*Mich. Med. News.*

MEASLES AND OTITIS IN MONTREAL.—Montreal seems to have been given over to epidemics for a year or two past. Besides the small-pox, measles has prevailed for two months to an unprecedented extent—so says the *Canada Record*. The same journal mentions that earache also was a very common and troublesome symptom. We have noticed this latter affection in San Francisco, in a degree beyond all our former experience. A curious feature has been that the otitis, in some cases, pursued such a stealthy course that its presence was not suspected till a discharge from the ear took place. Of course this refers to children too young to describe their feelings.—*Pacific Med. Jour.*

BLISTERING IN PNEUMONIA.—Dr. F. R. Millard, of San Diego, California, answers a query thus: If your pneumonic cases are complicated with scurvy or allied cachexia, do not use blisters at all. After twenty years' observation I have yet to see the first uncomplicated case of pneumonia blistered too early, but have seen many

applied too late. Do not keep on too long, and do not quit the poultice too soon. Make your diagnosis first, and there will be no necessity of again percussing the blistered surface; there is an abundance of other means by which you can know how the lung is progressing.—*M. and S. Rep.*

ACONITE IN PNEUMONIA.—The *Practitioner* records four cases of pneumonia which were supposed to have been cut short by means of aconite. The drug was given in minim doses of the tincture every half hour for four hours, and then in the same dose every four hours. The administration was begun on the first day, when there were crepitant rales, cough and rusty expectorations, and seemed to have an abortive effect. It is supposed to be especially indicated in the first stage of the inflammation.—*Mich. Med. News.*

A GOOD SIGN—THE CHURCH EXPELS A CHARLATAN.—One of the best things of the kind that we have lately heard of is the degradation from the ministry and the expulsion from the Methodist Church, of the "reverend" T. B. Miller, M. D., dean of the bogus Philadelphia University of Medicine and Surgery. Further than this, the stock and fixtures of the establishment were sold at constable's sale for rent.—*Pacific Med. Jour.*

BOOK NOTICES.

A TEXT-BOOK OF PHYSIOLOGY. By M. Foster, M. A., M. D., F. R. S. Prælector in Physiology and Fellow of Trinity College, Cambridge. From the third and revised English edition, with notes and additions by Edward T. Reichert, M. D., Demonstrator in the University of Pennsylvania. With 259 illustrations. 12mo. Pp. 1030. Philadelphia: Henry C. Lea's Sons. Cincinnati: R. Clarke & Co. Price, \$3.25.

This is decidedly the best text-book of physiology for the use of students with which we are acquainted. In quite every particular it fulfills our view of what is needed by one entering upon the study of this important branch. It affords just such information as a student requires, and instructs him in it as a student should be instructed. It

is a text-book of a branch in the study of medicine more on the plan of a text-book in some department of a literary or scientific education than any work that has yet been issued. Many learned and excellent works on physiology have been published that are deservedly held in high esteem, but while such may be studied with advantage by those who are more or less versed in its knowledge, they are poorly suited to be placed in the hands of the office or college student.

The work of Dr. Foster has attained in England so great popularity, that although it has been but a short time since it first appeared in that country, a third edition has been called for. We bespeak for it an equal popularity in this country. The American editor, Dr. Reichert, while he has omitted nothing in the English edition, has made a number of important additions, amounting in all to about 140 pages. What has been added explains more clearly subjects that were more or less imperfectly elucidated by the author.

We will be much mistaken if this work does not become, in a short time, the most popular text-book upon physiology in the hands of students in attendance upon medical lectures.

THE VENEREAL DISEASES, INCLUDING STRICTURES OF THE URETHRA. By E. L. Keyes, A. M., M. D., Professor in Bellevue Hospital Medical College. 8vo. Pp. 348. New York: Wm. Wood & Co.

We believe that we have noticed the fact at a previous time that Messrs. Wm. Wood & Co., of New York, commenced last year the annual publication of a series of medical works, each series consisting of twelve volumes, at a price for the whole that would make the cost of each volume unprecedentedly low for a work on medicine—as cheap as very cheap literary books. For instance, the work before us, of the series of twelve books for 1880, at \$15.00, would be but \$1.50 by itself. At the usual price of medical works, it would cost not much less, if any, than \$3.00. But single volumes are not sold. The works are supplied only to subscribers for the whole series of twelve volumes.

Dr. Keyes on Venereal Diseases, the first volume of the series, is one of the most valuable works on the subject

of which it treats that has been published. It is well adapted to the wants of physicians and students. While concise in its teaching, it is sufficiently full for all practical purposes. Chancroid, Syphilis and Gonorrhea have each a part devoted to its consideration. The author differs in his views with some Syphilographers, but, as a general thing, they are in harmony with those of leading specialists.

A TREATISE ON FOREIGN BODIES IN SURGICAL PRACTICE. By Alfred Poulet, M. D., of the School of Military Medicine at Val-de-Grace. Translated from the French. In two volumes of about three hundred pages each. Illustrated by numerous original engravings. 8vo. New York: Wm. Wood & Co.

The two volumes of this work form the third and fourth volumes of Wood & Co.'s annual subscription series of medical works, which we have noticed above. It is a new and practical work upon an entirely new subject of unusual interest and value.

Very much of the information in these volumes can not be found elsewhere, and, therefore, the work is of peculiar value to physicians. The commonest surgical operation to which a medical man is liable to be called is the removal of some foreign body that has found lodgment in the throat, trachea, esophagus, nose, eye, ear, urethra, vagina, rectum, etc., etc., and not unfrequently the life of the patient is staked upon the physician's knowledge and skill. How important, then, is a work which gives the fullest information in regard to such emergencies. We very cordially recommend it.

A HAND-BOOK OF PHYSICAL DIAGNOSIS, COMPRISING THE THROAT, THORAX AND ABDOMEN. By Dr. Paul Guttormann, Privat Docent in Medicine, University of Berlin. Translated from the third German edition by Alex. Napier, M. D., Fel. Fac. Phys. and Surg., Glasgow. With a colored plate and 89 wood engravings. 8vo. Pp. 344. New York: Wm. Wood & Co.

This very interesting and valuable work is the *sixth* of the series of Wood's Library of medical works. It comes fully up to the high standard of the other works in their respective departments. When we say that in its teaching it comprehends all that the student could

desire, we can say nothing more in praise; and that such is the fact a careful examination we are sure will convince any one.

We will state that the work presents a concise description of the various methods pursued in the clinical examination of the thoracic and abdominal regions in health and disease, and an estimate of the diagnostic value of the results so obtained.

A PRACTICAL TREATISE ON SEA-SICKNESS; ITS SYMPTOMS, NATURE AND TREATMENT. By George M. Beard, A. M., M. D. Fellow of the N. Y. Academy of Medicine. 12mo. Pp. 74. Flexible Covers. New York: E. B. Treat, No. 757 Broadway. Price, 50 cts.

Dr. Beard is well known as an eminent physician, and his treatment of a subject will necessarily command attention and respect. This work of his embodies the results of much experience and extensive experiments. The philosophy advocated is that seasickness is a *functional disease of the central nervous system*. In the treatment proposed it has been the effort to adopt a course in harmony with this philosophy; and he states that the results have been most satisfactory with himself and many others. Experiments prove, he says, that the affection can, in the majority of cases, be prevented or greatly relieved.

In the way of medicines, the Doctor mentions, among a number of others, the bromides most favorably. The bromide of sodium is preferred, and he advises it to be taken from one to three days before sailing, so that the individual may become mildly bromized before reaching rough water, and this mild bromism should be kept up during the voyage if necessary. Sulphate of atropia he also speaks of in high praise in doses of 1-100 to 1-25 of a grain, employed hypodermically or by the mouth, with sufficient frequency to produce great dryness of the mouth. The powdered citrate of coffee in two or three grain doses is recommended for sick-headache.

POST-MORTEM EXAMINATIONS, WITH ESPECIAL REFERENCE TO MEDICO-LEGAL PRACTICE. By Prof. Rudolph Virchow, of the Berlin Charity Hospital. Translated from the second German edition, by Dr. T. P. Smith. 16mo. Pp. 145.

Philadelphia: Presley Blakiston. Cincinnati: R. Clarke & Co. Price, \$1.25.

Every physician is liable to be called upon to make a *post-mortem* examination, yet scarcely one in a dozen is really competent to make one as it should be made. Prof. Virchow is probably the greatest histologist and pathologist living; and a work by him, on the subject, can not but be accepted with confidence, as affording the instruction needed for performing a scientific autopsy. We commend it with pleasure to our readers. Being very cheap, every physician should have a copy.

MODERN MEDICAL THERAPEUTICS: A Compendium of Recent Formulæ and Scientific Therapeutical Directions, from the Practice of Eminent Contemporary Physicians, American and Foreign. By George H. Napheys, A. M., M. D., etc. Seventh edition, enlarged and revised. 8vo. Pp. 604. Philadelphia: D. G. Brinton, 115 South Seventh Street. Price, \$4.00.

The work before us has proven very popular indeed, having passed through *seven* editions. Certainly there can be no greater proof of the high estimation in which it is held.

We have given quite extended accounts of the work in our notices of previous editions, so that not much need be said now. We will repeat, however, that it is devoted exclusively to *practice of medicine*. The diseases are arranged in alphabetical order under the general nosological division to which they belong; and then, after giving a brief description of the leading symptoms, then follows, in the case of each one, a variety of prescriptions by distinguished physicians that have been found efficacious in the treatment. It is not the design to furnish merely a lot of formulary, but to explain how remedies that are indicated are best compounded to fulfill the purposes of their administration. In other words, the work teaches not only therapeutics in the most concise and practical manner, but also instructs in prescription making, by giving the prescriptions of the most eminent living physicians and explaining the reasons of them.

The present edition has undergone a very thorough revision, and much new matter added.

SEA-AIR AND SEA-BATHING. By John H. Packard, M. D., Surgeon to the Episcopal Hospital. 18mo. Pp. 121. Philadelphia: Presley Blakiston. Cincinnati: R. Clarke & Co. Price, 50 cents.

This is the eleventh volume of the series of "American Health Primers," a number of which have been noticed in the NEWS. As stated in the introduction, the object of the work is to explain how and why people derive benefit from sea-air and sea-bathing; to show in what way these advantages may be best obtained, and to point out how the accompanying risks may be avoided. The author has had very considerable observation and experience, and is, therefore, very competent to give instructions in regard to these matters.

There are twelve quite interesting chapters, in which are considered the general considerations in regard to sea-bathing, then the facts pertaining directly to sea-bathing, accidents in bathing, sea-bathing for invalids, amusements at the seashore, cottage life, sanitary matters, the seashore as a winter resort, excursions to the seashore, etc.

The little book should be read by every one, whether physician or not, contemplating seeking the seashore for society purposes or amusement only.

EDITORIAL.

CINCINNATI BOARD OF HEALTH.—Our sapient Legislature, at Columbus, at its last session, passed a law restoring to Cincinnati the Board of Health which, at a previous session, had been merged into the Board of Police Commissioners, defining its duties, clothing it with certain powers, etc. Among its duties was the appointing of a health officer and ward physicians to attend upon the outdoor poor sick. After enacting this law, divided into the usual many sections, in a day or two afterward it passed another act in which a number of previous enactments were repealed, among them being the law just passed establishing a Board of Health for Cincinnati—the wise law-makers, in their inattention of what they were doing, overlooking the fact that their clerk, or whoever it was that drew up the repealing act, had inadvertently written it down among

the laws to be repealed. What, too, seems remarkable and even ludicrous, this inadvertent repeal of the new health law of Cincinnati was not discovered for sometime after it had been done. Not until, in fact, after the Common Council had met, and, in accordance with the law, had chosen the members of the Board of Health, these gentlemen had met and organized, and held several subsequent meetings, at one of them electing a new health officer in place of Dr. Thomas Minor, who had been holding the office for a couple of years or more. The discovery of the repeal was finally made by the City Solicitor, who accidentally stumbled upon it while examining the enactments by the session of the Legislature just closed. In accordance with the duties of his office, he addressed a communication to the gentlemen who were supposing that they were a Board of Health, and informed them of the inadvertent repeal of the law by which they had been constituted, stating to them that they were not a legal body, and that their acts were necessarily invalid. No little consternation followed on the reception of this communication. According to the reports of the papers they retired to a corner of the room in which they had assembled and held a whispered conversation for sometime. As the reporters were not able to hear the sayings uttered, of course they are for ever lost to the world. They finally, however, concluded to adjourn until the time of their next regular meeting of the following week. They then met and announced that by the advice of counsel they had determined to proceed on as a Board of Health until the City Solicitor, or some other person, would have them served with a writ of *quo warranto* (we believe that is the term used) by some of the courts and they should be pronounced an illegal body. Two of the members, however, we believe have withdrawn from the Board, not willing to take the responsibility of acting under the circumstances.

It would meet with general favor if the Board, as constituted, would be pronounced by the courts as an illegal body. The members chosen by the Common Council are but mere ward politicians, selected without any reference whatever to any qualifications for holding the position. One of the first acts of this body was to elect a Dr. Abijah J. Miles, health officer, a gentleman, as well stated in an article in the *Commercial*, quite unfit for the place. Not

possessing even a common school education, how can he be versed in medical learning and in the knowledge which a health officer should have. A first-class city like Cincinnati should have a gentleman at the head of the health department thoroughly versed in medicine and the advanced hygiene of the day. He should be an authority in matters of health. He should know not only what is being done in his department in all the great cities of the world, but he should have the general culture, mental discipline, good judgment, and readiness of perception as to enable him to be benefited by experience—being able to trace effects to causes, foresee results, and add knowledge to knowledge. To place a physician of limited qualifications in the position of health officer to such a city as Cincinnati is ridiculous. It is prostituting the welfare of the city to mere party purposes, and we are pleased that the secular papers protest against it. Contempt is brought upon the city itself.

Our new health officer, before he became a physician, had doubtless heard of the beneficial effects of whitewashing in a sanitary point of view, and so in one of his learned papers submitted to the cultured Health Board that has recently been elected, he recommended that the cellars of private houses be whitewashed. This is the only sanitary regulation we have heard so far emanating from him. Compiling the weekly mortality reports seems to be as much as he is able to wrest with.

Heretofore the health officers of Cincinnati have been very competent gentlemen, and have compared very favorably in ability with the health officers of the other large cities of the country. Drs. Clendenin, Quinn, Kearney and Minor exhibited very superior qualifications during their respective administrations. They all did much to improve the hygienic condition of the city, and would have done much more if they had been able, at all times, to have their recommendations carried out. It was largely due to the efforts of Dr. Minor that Cincinnati escaped an epidemic of yellow fever during the last two summers that it prevailed to such a fearful extent in the South—particularly at Memphis. Dr. M. wrote a very interesting history of the epidemic, exhibiting much research and sound reflection. His last health report has received many encomiums—containing, as it does, much valuable information. We should have noticed it before this time

in the proper place, but have been prevented. We will, however, at a future time, present to our readers some of the valuable facts contained in it.

Dr. Minor would have been a candidate, we understand, for re-election by this Health Board, before it had been discovered by the City Solicitor that it was not a legal body—the law creating it having been repealed almost as soon as passed—if the men constituting it had been such for whom he could have had any respect; but being only mere “ward bummers,” whom he felt convinced would “run” the Board for self-aggrandizement and party purposes, and would treat, as of secondary importance, the great sanitary interests of the city, he declined being a candidate.

As the city has the power, without a Board of Health, to enact sanitary measures and appoint proper officers for enforcing them, we think it would be a good measure, if the courts decide the present body an illegal one, for the Common Council to create by an ordinance of its own the office of health officer, and elect Dr. Minor, Clendenin, or Quinn to fill it. A conscientious, intelligent, learned physician, with power to enforce such sanitary regulations as, by his advice, a Common Council had made into ordinances, would really be all sufficient. Boards of Health are not unfrequently nuisances, embarrassing a good health officer in his efforts to advance the welfare of the citizens.

The appointees of our would-be Board of Health seem to be having trouble to draw their pay from the city treasury. In the *Commercial* of May 27th is the following local:

Dr. Miles presented his warrant or order for half a month's salary as health officer, to City Comptroller Eshelby, for payment yesterday, but that official politely declined to issue his order on the city treasury for the money because of the reasonable doubt existing in his mind as to the legal existence of the Board of Health. In view of this he addressed the following communication to the City Solicitor, who has promised his opinion in a day or two:

“COMPTROLLER'S OFFICE, CINCINNATI, May 26, 1880.

“P. H. Kumler, Esq., City Solicitor:

“DEAR SIR: As the legal adviser of the city I desire to submit to you the following questions:

“First. Is the present body acting as a Board of Health legal, and acting under the requirements of and in conformity with the law?

“Second. Am I, as City Comptroller, *legally justified* in issuing my warrants in payment of any claims or expenses they may incur?

“An immediate reply will greatly oblige yours respectfully,

“E. O. ESHELBY, City Comptroller.”

THOMAS KEITH AND OVARIOTOMY.—We have received a pamphlet from Dr. J. Marion Sims, of New York, giving a highly interesting sketch of Dr. Thos. Keith, of Scotland, the most distinguished ovariologist of the present day, and the mode of his operating in ovariotomy. The success of Dr. Keith has been greater than that of any other ovariologist. Recently he has had *seventy-three successive cases of recovery*. "In his hands, the operation suggested by John Hunter in 1786, pronounced cruel and outrageous in 1824, has become so admirably systematized, that recovery is the rule, and death as the result, *a rarity*."

Dr. Keith performed his first operation of ovariotomy in September, 1862. Up to the time of Dr. Sims' writing he had operated 303 times. When he published his first series of fifty cases his remarkable success was supposed to be accidental; and when he published his second series of fifty cases, making a hundred in all, his success so far outstripped that of all other operators that it became a wonder and admiration of surgeons all over the world.

Dr. Sims thinks that he has discovered the secret of Dr. K.'s great success, which he is hardly-aware of himself, because he has rarely seen the operation performed by any one else. He considers that it is due to his never closing the external wound until he has controlled all oozing of blood, and made sure that the peritoneal cavity is dry and clear—together with the employment of antiseptics after the manner of Lister. We recollect that Dr. Cooper, of California, now deceased, who had much success in ovariotomy, made it a point to thoroughly sponge out the peritoneal cavity. But Dr. C. knew nothing about the antiseptic plan of treatment. Dr. Sims relates of being present at an operation of Dr. K.'s, and gives the following account of "making the toilet of the peritoneal cavity." He says: "He cleared out the peritoneal cavity with sponges, removing several ounces of extravasated blood and serum. Then he began to hunt bleeding points on surfaces from which adhesions had been broken up. He tied one point, and then another and another, which had given rise to the smallest *possible* transudation of blood. Then the whole pelvic cavity was again sponged out, and *again* he searched for oozing vessels until he tied perhaps twenty points. He continued the search and ligation of seemingly unimportant little oozing points

long after any other surgeon would have hastily closed up the external wound, leaving something to chance. Not so with Keith; he explores and re-explores, and you wonder why he does not at once finish the operation, when suddenly he seizes a point moistened with fresh blood, and throws a ligature of carbolized catgut around it. And so he goes on, till he feels sure that there is not a point left unsecured from which bleeding, after the establishment of reaction, could possibly take place."

When he comes to close the external wound, after the plan of Wells, he places a broad, flat sponge, six by three or four inches, within the peritoneal cavity overlying the exposed intestines for the purpose of receiving any blood that may drop into the peritoneal cavity from the needle punctures. This sponge is removed after the sutures have been made by first drawing the upper half of them in their middle portions into the upper angle of the incision, and then the lower half into the lower angle, where they are held by assistants. Each suture has a needle at either extremity and is passed from within the peritoneal membrane, from a quarter to a third of an inch from the edge of the incision, out through the skin. When the sponge is removed, if it is bloody, he immediately begins the search of bleeding points; but if it is dry the wound is ready for closure. But before doing this he hastily thrusts a small sponge, held by a locked forceps, to the bottom of the pelvic cavity, to determine if it is still dry. If it is, the sutures are all drawn tight, and each tied separately, while an assistant presses the relaxed abdominal walls together with his hands, in a line under and parallel with the course of the wound.

It is the custom of Keith to order twenty drops of laudanum or its equivalent to be administered per rectum after the patient recovers from the anesthetic, if there be pain enough to require it; to be repeated if necessary. He considers it injurious to saturate the patient with opium as some novices do. For the first forty-eight hours the patient takes no nourishment. At the end of this time he allows light nourishment, such as beef-tea and milk, and in a day or two the bowels may be moved by an enema. Brandy and ice are only used when necessary.

Keith employs carbolized catgut ligatures to all bleeding points except the pedicle. To this he has, at different times, used the clamp, the ligature, and the cautery.

When he applies the latter it is not at a red heat, but dips the iron into cold water until the redness has disappeared, and with the black-hot iron slowly severs the tissues, afterward smoothing them off with another iron at a brown heat. Dr. Sims thinks that it matters very little what is done with the pedicle—whether it is treated with the clamp, the ligature, or the cautery. The important thing is to provide against the exudation of blood or bloody serum. Both he and Dr. Keith think that bloody serum is more dangerous than either pure blood or pure serum.

Keith sometimes uses the drainage tube and sometimes not. If there are no adhesions to break up, the drainage tube is unnecessary. If there be ascites alone it is unnecessary, but if the ascites is complicated it should be employed. Dr. Sims says that if two sponges be employed after the completion of the operation—one over the intestines as before described, another, the size of a small orange, firmly held with locked forceps, down to the bottom of the Douglas' pouch, the handle of the forceps projecting from the lower angle of the incision—when the sutures are all introduced, draw half to each angle of the wound and remove the superficial sponge, as before described. If it is dry, all is well in the region that it had just occupied. Then remove the small sponge with the locked forceps from the pelvic cavity, squeeze it, and if it, too, is found to be perfectly dry, the external wound may be closed without the drainage tube. If, however, it be found to contain blood, its source must be searched and secured; but if we fail, drainage must be resorted to.

Keith began Lister's antiseptic method in March, 1877. Previous to that time his success had been from eighty-six to ninety per cent; that of others from sixty-six to seventy and seventy-five per cent. Since his adoption of the antiseptic mode the recoveries have been ninety-seven per cent—seventy-three of these in succession without a single death.

Dr. Thomas Keith is now fifty-two years old, six feet high, slender, and slightly stoop-shouldered. Dr. Sims represents him as being modest as a woman, and of a character altogether lovely. His whole soul is wrapped up in his work, and after he has performed a difficult operation, he eats and sleeps but little till he knows his

patient is out of danger. He is quick in action, walks rapidly as if he were trying to catch up with his great head, which is always in advance of his great body.

CHIAN TURPENTINE IN CANCER.—This medicine seems to be gaining very considerable reputation as a cure in cancer. The *St. Louis Courier of Medicine* draws attention to it in its May issue, quoting from the *Boston Medical and Surgical Journal*. It says: "If further therapeutic results bear out the recent observations of Mr. Clay, of Manchester, we may soon be permitted almost, if not entirely, to lay aside curettes and cautery irons for extirpation of cancer," having reference to Chian turpentine as a remedial agent.

The *Lancet*, in an article in its issue of May 8th, states as follows in regard to Chian turpentine:

"The prospect of a remedy for a disease hitherto deemed incurable, in the majority of cases, has very naturally created wide-spread interest amongst the public and the profession. The new treatment is on its trial, with the best wishes of every humane person. Care must be taken not to excite false hopes, and so to conduct the investigation that the conclusions arrived at shall commend themselves for scientific exactness and freedom from prejudice. In the first place, it is manifestly important that the nature of the cases treated be placed beyond doubt. Many cancers are unmistakable through their whole course, whereas the character of others is open to question. Every therapeutic inquiry presupposes accuracy of diagnosis. In the next place, unless those who administer Chian turpentine employ the same agent, it will be useless to test their imperative results. Herein lies a very great difficulty. Some of our leading authorities on *materia medica* are very skeptical as to the source and characteristics of Chian turpentine, and Professor John Clay, of Birmingham, who has introduced the agent as a new treatment for cancer (the *Lancet*, March 27, 1880, p. 477), thus expressed himself in our last issue: 'As the purity of the drug is an essential condition of successful treatment, I can not hold myself responsible for the validity of many of the trials which are now being made, nor can I admit that they constitute a fair test of the new method of curing cancer.' This protest is a warning that, unless great care is exercised, the experi-

ments on foot will lead to endless discussions instead of precise conclusions. What are Mr. Clay's tests for the purity of Chian turpentine? It is very important to know the characters and sources of the drug which he has employed throughout his investigations, and our columns are freely at his disposal for any information he may furnish on the point, which should be settled at the very threshold of the research."

DEATH OF DR. JOSEPH T. WEBB—RESOLUTIONS OF CONDOLENCE PASSED BY THE PHYSICIANS OF CINCINNATI.—A general meeting of the medical profession was held in the lecture-room of Miami Medical College, to take action regarding the death of Dr. Webb.

Dr. John Davis was called to the chair, and Dr. Clendenin appointed Secretary.

Brief addresses were made by Drs. Comegys, Williams, Kearney, Clendenin, Dr. Wm. and Dr. John Davis.

Dr. Davis spoke of Dr. Webb's services as Superintendent of Longview Asylum; that they were such as entitled him to consideration, and that while there he had reduced the expense of the Asylum \$25,000 on annual expenditure.

Dr. Clendenin referred to his first association with Dr. Webb, which was during the war; that he had ever been a faithful and efficient medical officer, and on many occasions had sacrificed much of personal comfort to satisfy himself that patients were having the best care possible.

The following resolutions were passed:

Resolved, That we have learned with deep emotion of the death of Dr. Joseph T. Webb, and that in his death the medical profession is called upon to lament the loss of one of its most honored members.

Resolved, That in his long service to his country as an army surgeon during the war of the rebellion, he faithfully and ably discharged all his duties and endeared himself to his surviving associates by his prompt and efficient co-operation in all the hazardous and trying duties incident to an army surgeon's life.

Resolved, That we offer to his family our condolence in their irreparable loss.

Resolved, That copies of these resolutions be sent to his family, and also furnished for publication in the daily papers and medical journals of Cincinnati.

PROSTITUTION AND DEPOPULATION.—The following is from the *American Medical Bi-Weekly*:

"According to a correspondent of one of the London journals, it appears that a deputation of members of both sexes from the reform societies of Switzerland, Belgium, England, etc., visited Paris during the early part of the year 1878, with the view of putting an end to legal prostitution in France; but it seems from their discoveries that their mission was an absolutely hopeless one. While this committee was in Paris the whole subject was discussed by the Anthropological Society of that city, for the purpose of determining what was really the effect of prostitution on both the population and depopulation of different countries. Dr. Despres showed that in Belgium, where the legal organization of prostitution is most complete, marriage is continually becoming more rare, and that the system of national concubinage and prostitution thereby resulting is rapidly depopulating the country. It was demonstrated during the debate that women living under the marriage relation produce more children than those living in a condition of concubinage; while those living in this latter condition are more fruitful than regular prostitutes. It was further made manifest that while concubines miscarry during the first or second month, as the result usually of artificial causes, prostitutes miscarry during the first month as the direct effect of the life which they lead and the immediate and constant strain upon the generative organs. It seems that this miscarriage among professional prostitutes is almost invariable; that they themselves are never aware of conception, as it does not proceed far enough, but learn the fact either from a profuse and untimely flow, or from the examination to which they are periodically subjected. While, therefore, conception is rare among regular prostitutes, miscarriage is almost the invariable rule when conception occasionally takes place. So that the result of both this general concubinage and prostitution is, as far as population is concerned, a practical sterility, and in countries where concubinage and prostitution are generally tolerated, an increasing depopulation is now the result. These facts at first seem to constitute only social problems, but it is manifest to the careful thinker that they underlie the very basis of national prosperity and growth; for even if scientists agree or disagree as to the advisability or neces-

sity of legalizing prostitution, with the view of checking disease, both immediate and prospective, there is far beyond this question the ultimate one of the effect of prostitution in the depopulation and destruction of a nation. It would seem, too, that if prostitution be made safe and disease be not relatively but actually checked, that public sentiment would thus give an implied support to prostitution; that it would largely increase, and that the results of such a system must be fatal to national increase. It is very true that the disciples of Malthus see in the effects of prostitution a practical removal of their fears in regard to over-population; but it is manifest that this apparent remedy (for over-population) has precisely the same effects as would the condition (over-population) for which the remedy is applied; for it makes practically but little difference in the problem whether, according to Malthus, depopulation would occur as the result of overcrowding or the result of general prostitution. It appears that in France the normal increase of population is being diminished at the rate of 500,000 every year. This appalling fact, striking ultimately at the very existence of the French nation, seems, according to Gallic philosophy, to be not one of national extinction, prospectively, but of national prosperity."

CRUELTY TO WOMEN.—The *Lancet* of May 8th has an article with the above heading, which, as it applies to the women of this country equally as well as it does to the women of England, we quote entire. Not only in England, but in this country, women are very largely superseding men as clerks and salesmen in stores. From appearances, in the large stores, but very few have an opportunity of sitting down from morning until night, but are compelled the whole time to be on their feet. As stated by the *Lancet*, the practice must be very deleterious, and it should be brought to the attention of shop-keepers:

We have a serious duty to perform; and we can not shrink from it. The public are, probably, not aware of the cruelty which is being inflicted on a large class of the community by the practice of keeping shop-women standing during the hours of business. In some of the large establishments daily patronized by ladies of fashion the permanent injury done to the young persons engaged is of alarming proportions, and it is time to protest. Young women come up from the country in full health, and are rapidly reduced to a condition which practically condemns them to life-long suffer-

ing. So fatuous is the discipline in many of the large houses, that if a girl is seen to lean for a few moments for relief in her weariness she is reprimanded, and if the offense (!) be repeated, dismissed. This cruelty—we can use no milder term—is one which society or, if need be, the law, must put down. We have not adverted to this painful subject until compelled to do so by the most conclusive evidence that the practice of keeping girls standing during business hours is a large factor in the causation of the most distressing diseases. The public will aid our endeavors to put a stop to this evil by interfering as opportunity offers; but an appeal must be made directly to the tradesmen, especially of the large retail drapery establishments in the metropolis. We especially invite communications from firms who are willing at once to provide sitting accommodation for the young women in their employ, for use during the intervals of personal attendance on customers. The names of these firms we will publish in a special notice; and by this and other methods of enforcing the reform so urgently needed, strive to eliminate at least one of the remediable causes of disease.

BEAUTIFUL MICROSCOPIC OBJECTS.—Sometime ago we mentioned the beautiful mounted diatoms of Mr. C. L. Peticolas, 635 Eighth Street, N., Richmond, Va. Since that time we have received from him a number of other slides of diatoms that every lover of resolving fine lines would hold in high esteem. Mr. P. mounts a number of test slides numbered 1, 2, 3 and 4. Each of these has some eighteen or twenty diatoms arranged in reference to the fineness of their markings. At the same time the number of the slide classes it as to the grade of lenses required to resolve the various shells. Mr. P. also mounts slides of American *p. angulata* which are very much finer tests than any of the European slides of that popular test. These test plates, while as valuable as Moller's, are sold at a very much lower rate.

His slides of miscellaneous diatoms, price sixty cents a piece, are very beautiful indeed. Each one has in it several hundred objects, and we have never met with one that did not have among the number not a few fine tests of resolving power of objectives of various grades of quality.

SUMMER COMPLAINT IN CHILDREN.—We clip the following from an exchange: "The season of disaster among the infants is even now upon us, and the bulk of the physician's practice during the next few weeks will be in caring for the bowel complaint of children. Doubtless the vast majority of these complaints are directly traceable to errors in diet. The physiological fact is unknown to the vast

majority of mothers, and is forgotten or disregarded by very many physicians, that the infant before it has its teeth does not secrete saliva in sufficient quantity for the digestion of starch food, and the consequence is the general prevalence at this season of infantile diarrhea. Cow's milk, next to that of the mother the most natural food for the child, very rapidly sours during this weather, unless greater precautions are taken than is generally possible, and it thus becomes a fruitful cause of trouble. What is wanted is a food which shall obviate the objection to both the farinaceous or starchy preparations and milk. With such a food in the hands of mothers, disease and death among the children, at this season particularly, would be largely reduced. It remained for Liebig to prepare a formula for such a food, and many physicians can testify to its success. It is easy to understand, however, the difficulty in the way of preparing this food by the general practitioner, and it is with pleasure we note the fact that Horlick's Food for Infants, which is prepared after Liebig's formula, can now be had at most of the drug stores. We have found that little else is required in many cases of summer complaint than to place the child on this food as its exclusive diet."

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ORIGINAL CONTRIBUTIONS.

Mischief Caused by Wisdom Teeth.

BY E. A. COBLEIGH, M. D., ATHENS, TENN.

IN a recent number of the CINCINNATI MEDICAL NEWS I related the particulars of three cases of aural disturbance caused by the irritation of molar teeth, two of which were at once, and permanently, cured by attention to the offending grinders; the third, however, resulted in severe and destructive tympanic inflammation before its cause was discovered or I had any opportunity to treat it. In this communication I wish to present, in brief, the history of two other cases of disease—not of the ear—depending on the same cause.

The first occurred in the person of a robust man (whom I will designate Mr. A.), aged about 26 years. The left parotid region, when he presented himself to me, was greatly tumefied, looking precisely like a person with a severe attack of mumps. It had been in this condition, after its first commencement, about 48 hours. On attempting to examine the interior of his mouth I found this next to impossible, as he could scarcely separate his teeth an inch, and his tongue was swollen so that it occupied nearly all of the space thus obtained. After considerable delay, difficulty, and pain to my patient, I succeeded, by means of force and the forehead mirror of my laryngoscope, in getting the topography of the buccal interior. The tumefaction was as great, in proportion, inside, as on the outer jaw. The whole left cheek, tonsil, pharynx, gums and tongue were congested, lower teeth

seemingly imbedded to their crown in spongy tissue, talking defective, appetite vanished, pain intense, producing insomnia, and general nervousness, with some fever. But around the last inferior molar of that side were the most evident signs of local disease. Here the tooth was literally covered on all sides by turgid membrane which bled freely on mere contact of a blunt probe. The perpendicular folds of mucous tissue forming the usual angle behind the teeth were dense and rigid around this one, and from the large size of the teeth themselves, and shortness of the bone, I suspected that the last molar had been crowded, from its eruption, too far back, and into these folds. This afterward proved to be the case. As well as I could (and that was very superficially) I scarified, with a free hand, these congested spots. A full saline cathartic was ordered, opium to allay pain, etc., and a large hop poultice over that whole side of the neck, face and jaw. This, with a mouth wash of permanganate of potash, was all the treatment pursued, except the subsequent instrumental measures. On the next day I made an ineffectual attempt to lance an abscess which I felt sure had formed over the offending tooth. On the following morning this abscess opened, spontaneously, behind the imbedded molar, pus gushing out freely all around it, and continuing to discharge for several days. Later, another abscess formed, in the substance of the parotid gland, which I feared would lead to salivary fistule; but it evacuated itself into the mouth, and a subsequent discharge of saliva was stopped by cauterizing the opening. During all of this time the mouth could be opened at all only by wonderful self-will on the part of the patient, and some of the time not more than three-eighths of an inch of space could be obtained between the teeth. This partial immobility continued many days after the cessation of all inflammatory action, and the muscular spasm seemed almost as painful as the throbbing and tension of the forming abscesses. Chewing was, of course, impossible, and even the swallowing of liquids caused great trouble and suffering.

About a week after his recovery this gentleman came to my office with indications of a return of his recent trouble, and insisted on the extraction of the cause of all his pain. The tumefaction had now quite disappeared, but rigidity of jaw, with aching in the articulation on

any effort to open the mouth widely, remained. The wisdom tooth was found to be still imbedded in the tissues for fully two-thirds of its antero-posterior breadth, lying in a fleshy cavern that had become callous, from friction, on all sides. This I divided with a knife, and, having with great difficulty succeeded in getting the forceps into his mouth, secured a firm hold by fairly mashing the beaks into the gum, and drew the tooth out. He had no further trouble.

A few months later another of my patrons, while in a neighboring city, was undergoing the process of cutting an inferior wisdom tooth. So painful a matter did it prove that he went to a physician and had the gum lanced. For a day or two this relieved him, but soon afterward he awoke in the morning with "rheumatism of the jaws," as he jocosely styled it, and found himself unable to masticate from tenderness of the "hinge-joint" and a "strapped up condition of the chewing gears." There was little or no positive pain attending, only a tensive feeling in the cheeks, such as one experiences in an ordinary attack of mumps. By night the jaw was firmly set, and real trismus fully established. A table-knife blade could only be passed between the teeth, by force, flatwise. Fever set in, violent headache, anorexia and nausea; a doctor was called, and for a week the sufferer lay quite ill. No abscess, or inflammation of any kind occurred, and no odontalgia except a grumbling ache at times, located at the new molar, and alternating with a painless, but distressing throb. At length he managed to get home and I saw the case. He slowly improved, but a partial trismus remained, to his annoyance and discomfort, for two months thereafter, interfering with conversation, chewing and even to no small degree with deglutition. At the expiration of this time my patient decided to follow the advice given him both by his first physician and myself, and lose the tooth; so I extracted it. A few days later his stiffness of jaw was entirely gone, and he has had no further trouble.

These are only a couple of cases out of quite a number falling under my notice, which exemplify (as does obstinate neuralgia arising from carious teeth) in adult life, the same morbid influence of dentition, and dental irritation transmitted by the trigeminus, that we so often witness in infancy and childhood, and which sometimes

puzzles, and frequently aggravates us a great deal in every-day practice.

If, then, in those of mature years, whose nervous systems are under control, and not subject to the easy perturbations of earlier years, such distressing results present themselves, how can we wonder that infants (in whom the neural sympathies are extreme, and perpetual tension of nerve force exists) are seriously, aye, often fatally affected by teething! Yet some practitioners decry lancing the tender and swollen gum in such cases. For my part I believe in the lancet under these circumstances, and know that I have seen only the happiest results from its use. To the antilancers I commend the particulars of the two foregoing cases, as also those reported in my previous paper.

Unity of the Human Species.

BY THOS. MITCHELL, M. D.

AN important fact in defense of evolution according to natural selection is said to be the beautiful adornment of birds and fowls, the object of which is declared to be to attract the other sex. Mr. Darwin considers the beautiful display of the peacock and butterfly designed to attract the attention of the other sex, leading to the marriage relation, just as the human sexes adorn themselves for such purpose. This conclusion is founded on the fact that he can find no other use for the possession of such beautiful wings and feathers. There may be quite a number of things in the universe the use of which Mr. Darwin does not know; but does that justify him in assuming that any of them are for some definite use, with no other reason for it than that it goes to aid his theory?

Will Mr. Darwin please inform us for what purpose the beautiful and sweet-scented flowers of the field and wild-wood are so exquisitely adorned that they called forth that forcible comparison by Him who made them: "Consider the lilies of the field, how they grow; they toil not, neither do they spin; and yet I say unto you, that Solomon in all his glory was not arrayed like one of these?" (Matt. vi. 29.)

In his "Descent of Man," Vol. I., p. 225, he says: "Now,

when naturalists observe agreement in numerous small details of habits, tastes and dispositions, between two or more domestic races, or between newly allied natural forms, they use this fact as an argument that all are descendants from a common progenitor who was thus endowed, and consequently that all should be classed under the same species. This same argument may be applied with much more force to the races of man." In another chapter we have shown this conclusion to be without the least force from the premises.

Now, whatever may be the extent of the supposed gap between the lower animals and man, it is certain he must rule them or be ruled by them; and were it the latter, he would long ago have been devoured; if, indeed, he could ever have obtained a start in existence, upon Darwin's theory.

That man does exist, and is the ruler of all the lower animals, proves there must always have been as great a gap between him and them as that which now exists. This fact is irreconcilable with the notion that there ever were animals only so much lower in the scale than man that the degree could not be easily distinguished; and evolution only admits of this, as it would have necessitated an act of creation had there ever been a great change—such even as that which now exists between monkeys and men. For the sake of argument let us admit the existence of this close relation, and do we not see that the contest for supremacy would involve perpetual warfare, and that between the two savages the most savage would always prevail? Hence the lower men-monkeys would exterminate the higher men-monkeys. Every time a lower animal evolved one of a higher degree, and therefore of a more pacific and civilized disposition, and should attempt to govern his father with less brute force, the more savage brute-father would devour him: the most unfit would therefore survive. It must be remembered that the standard of intelligence between the two does not admit of sufficient difference to give one the advantage of superior weapons.

In illustration of this let us inquire, why have the American Indians so long survived? Why has the United States Government petted and indulged them as it has? It has not been out of any peculiar sympathy or respect for them, but simply and solely because they were sav-

ages. Would the people of this country have tolerated the existence of an equal number of whites, reds or blacks from any other country who had emigrated here, and who had committed as many cold-blooded atrocities upon helpless, unarmed men, women and children as they have done? No! Every man of them would have been exterminated; but for the fear of the same cruel, savage acts, they have been tolerated and have survived. No; if men were savage at first, so would they have forever remained, just as the lower animals have done, unless domesticated; and this was not the work of the animals, but of civilized man. It is also true that the most savage has the lowest intellect, and as a consequence the least regard for results, either of a moral or physical character; and he would also have the greatest physical strength, in which respect man is vastly inferior to his animal contemporary or ancestral brothers and sisters.

Such a state of facts and their teaching shuts us up to the only other alternative; namely, the revealed theory contained in the Bible. Here we find the gap between man as the ruler, and all other animals as the subjects, so wide that they are under the control of his will and superior intelligence. This record is corroborated by the facts of the world's natural history: "And God created man in his own image; in the image of God created he them. * And God blessed them, and said unto them, Be fruitful and multiply, and replenish the earth, and subdue it, and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth." (Gen. i. 27, 28.)

Hence, according to the facts and nature of things, instead of the family of man having commenced with universal savage life—and that, too, animal savage life—from which it has been progressing toward civilization by such contests as above, it started with the highest intellectual, moral and physical susceptibilities and endowments; and being the most fit to survive, has survived. The same authorities tell us that the largest and most powerful of the lower animals have perished; while there has not a single species or individual of the savage animals, if left to themselves, ever lost their savage nature; and that all are savage still, demonstrates that man could not have been the exception; and that were his ancestors brutally

savage, and associated with none higher to teach him civilization, such also must his children during all successive generations have remained.

When the polygenists assume that one species produces another, they put themselves in opposition to all these facts, and also in contradiction to all the naturalists, botanists and zoologists, and indeed all the eminent minds who, following Buffon, Turnefort, Jessieu, Cuvier, Geoffroy, Saint Hilaire, have studied plants and animals outside of all discussion and without thought of evolution; but the facts of experiment thus furnished demonstrate nature to be utterly incapable of producing a new species, and of the primitive pair as well, and that her laws are confined to the simple and unimportant changes modifying species resulting in different races of each, thus rendering the conclusion inevitable that each pair of animals and each plant originated in supernatural wisdom and power.

Now, if a continent has been peopled by a single pair of animals of a certain species, or by a certain single plant in the course of a few generations, then, in a greater number of generations, the habitable globe has also been thus populated. And if among all the modifications of species into races there has never been produced an organic thing lacking a single vital organ, or one that had double the number—say one which had two sets of lungs—and transmitted the same to offspring, it also follows that the original progenitors of each species were perfect in themselves, necessitating the continual identity of each; therefore polygenism can not be true; but that the original progenitors of each species had its existence in the mind and acts of an independent *Creator*. Any other view is alike antagonistic to philosophy, science, and the endless array of the cosmological facts of nature, discovered and understood by her students of all ages. Hence Mr. Darwin's definition and classification of species and races meaning the same, is one of the most gross and palpable errors ever advanced claiming the name of *Science*.

If we would hope to arrive at truth, is it not the simplest dictate of reason that we must consult the laws, facts and principles connected with those animal and vegetable species with which we are most familiar—consequently those of historic and not of prehistoric times—therefore commencing with the living generation? In

other words, we must reason from the known to the unknown. Every historian knows that among the ancients each nation had its fabulous epoch, and every religion of idolatry its mythical period; and whatever there was of science, it partook of the same characteristics. According to the geological mode of reasoning, these cloudy records of myth and fable are to be considered more reliable than those of real history. Fossils of supposed extinct species—even one of a kind, and which might have been a monstrosity, having no identical unity in time or kind—evolved from others less perfect, are brought forward to defend the theory. Their position demands that they should produce the most indisputable facts, showing that known plants and animals are the parents of new species before unknown—for instance, that fowls are from fish, acorns from pines, birds from serpents, serpents from monkeys, monkeys from men—and this only reverses the order of evolution which the facts render necessary, if it exists at all. Instead, however, of giving us absolute proof here, where it is indispensable, these gentlemen have the effrontery to beg the whole question by saying, “Only give nature time enough, and she will evolve that which she does not possess. She will unroll that which is not enrolled, or turn out that which she has not within—such as an organic thing from inorganic matter;” and, to the disgrace of the age, multitudes of sensible people seem to believe it. Let us ask, are not six thousand years of historic time sufficient at least to have made some sensible approximation toward such a result? Especially when it is remembered that during this period it is declared that many species have become extinct by the survival of the fittest; and that, according to the theory, it required the same length of time to go out of existence as to come into it.

Thus, according to their own pet argument, evolution was always impossible, because it is so inconceivably slow that any two generations standing nearest each other are so identically similar that they can not be distinguished; from which it follows that before any radical change is reached the species exhibiting it has become extinct; and the tooth of time has so marred and obliterated the features of the remaining fossils, that no just comparison can be made. Those fossilized human skulls, for instance, which have been pronounced a hundred thou-

sand years old, have their exact types among the living men of our most civilized countries at the present day. Indeed, all the varieties of shape, size, and peculiar form of human heads exhibited by the whole human family may be found among the living, native inhabitants of the city of New York, with phrenological developments of every degree of mental and moral capacity, from the lowest savage to the most civilized of the world.

Some of the facts relating to organic beings, and which show they originated in a single mind, are as follows: All organized beings are born small and weak, and have limited existences, varying from a few hundred years to an ephemeral age. During these periods they all increase in size and strength and reach maturity; then decrease in power, vitality, and somewhat in size, and finally die. While living they must be nourished, and, as species, reproduce their kind either by seeds or eggs, and have a father or mother. As mankind are included in these general laws, they are equally controlled by them. These are not only facts of science, but are established by every day's observations, and are therefore to be considered *fundamental principles*. And how wonderfully does this show that man and the lowest insect are linked together in the great chain of organic life, forming a world of God's handiwork of mutual dependence and beautiful harmony.

The reasons, to our mind, which show why "anthropology," or the natural history of man, is discussed at the present day with such anxious intensity—its defenders making such bold apparent advances against the well-known science of man—are principally as follows: First, the assumption of facts which are not facts. Second, unwarrantable inferences drawn from real facts. Third, arrogant and unqualified declamation. Fourth, an ingenious and subtile sophistry. Fifth, collusion. But the deepest animating cause is a desire to undermine and destroy the foundation upon which Christianity rests. Hence the records of the Bible are set aside with as great an air of ostentation as though they were a mere effusion of the imagination, instead of alone containing the history and object of the world's creation and destiny, as well as the principal historic and prehistoric events, civil and ecclesiastical, which were and are to transpire from its beginning to its end; and, indeed, reaching into "the world to come." These records present the eternal and

immortal destiny to which men may attain, while evolution leaves man to die like the common beast, without the least hope of future existence.

Although the chemical properties of the mineral and organic world are interchangeable, yet man is not a mineral or a plant, but an animal. Though he is governed by the physical laws common to all animals, yet he is distinguished from these by at least three fundamental characteristics—the abstract sentiment of good and evil, the conviction that there will be something after this life, and the recognition of a Supreme Being. These are so universally the inheritance of mankind that those who reject them naturally must have heads of such intellectual and moral depression, phrenologically speaking, as to class them among *monsters*. It is the moral attributes even more than the intellectual which distinguish mankind from the lower animals. But with these exceptions the difference ends; and, as far as the question of species is concerned, man is nothing more nor less than the animals surrounding him.

Chian Turpentine.

DR. THACKER:—As Chian Turpentine has been prominently brought to the attention of the medical world during the last few weeks, as a cure for uterine carcinoma, I thought I would cull whatever was interesting in reference to this drug, from the latest pharmaceutical journals of Great Britain, and present them for the benefit of your readers.

Terebinthina Chia (Latin), Cyprischen terpentin (German), is a liquid resinous exudation from "*Pistacia Terebinthus*," a handsome tree growing in most parts of the south of Europe, but especially in the Greek Archipelago. The gum as found in commerce is a soft-solid, becoming brittle by exposure to air. It is of a yellowish-green color, and is composed of a resin, and a volatile oil. It has an odor resembling fennel. It is soluble in alcohol, Glacial acetic acid, benzol and sulphuric ether. In solution it is fluorescent. An alcoholic solution reddens litmus paper, and is neither bitter nor acrid. Dr. Paul (editor of *Pharmaceutical Journal*) says: "Chian Turpentine is in great demand, *but it is, very scarce*. A

specimen of the kind used by Dr. Clay appeared to be *not free* from the suspicion of containing *Canada balsam*." Dr. Clay gives the tests by which he judges of the purity of the drug, viz.: "If it has a *bitter* taste it is *not* pure. If it contains any Canada balsam, on heating it the characteristic odor of that substance will be evolved. If it gives off an odor of turpentine when heated, and is *entirely soluble* in alcohol, it is *not* pure; the odor is between that of fennel and elemi; the taste resembles mastic. Microscopical examination of powder shows *no trace* of crystalline structure." Dr. C. states that Venice and Strassburg turpentine have *not* produced the same beneficial effects on cancerous growths as Chian turpentine has done; while he finds Canada balsam to be *positively injurious* in cancer. As there is in circulation in trade some (so-called) Chian turpentine, which is nothing more than dried Canada balsam, pharmacists will do well to make themselves acquainted with the odor of that drug. This "bogus" Chian turpentine is of a *pale yellow* color, perfectly clear and transparent, with a powdery surface, but when heated, or chewed, is readily recognized by its odor and taste, which are totally different from the fennel-like odor, and mastic-like taste of the genuine drug.

JAMES BARNSFATHER, M. D.

Member of Pharmaceutical Society of Great Britain.

SELECTIONS.

Proceedings of the Obstetrical Society of Boston.

C. W. Swan, M. D., Secretary.

UTERINE AND VAGINAL INJECTIONS.

DR. RICHARDSON said that he agreed with Dr. Bixby as to the use of intra-vaginal injections. For the past six months in the Lying-In Hospital these had been the invariable rule in all cases where there seemed to be evidence of any septic absorption. Winckel claimed that a rise of temperature in some cases indicated absorption of poisonous matter from some solution of continuity along the vaginal tract; these points being sought out and touched with caustic the trouble would cease. Vag-

inal injections should be employed to avoid that absorption which, in Dr. Richardson's opinion, was one of the causes of puerperal fever. At the same time there is a liability to absorption at the placental site, or at some other part within the internal os. In a specimen which Dr. Richardson had shown to the society in the winter, there was a marked difference between the mucous membrane of the cervix and that of the body of the uterus, the former being perfectly healthy, while the latter, separated by a sharp line of demarkation, was seen to be broken down. Should a chill occur, especially with a marked elevation of temperature, he would at once resort to intra-uterine injections. He had seen the greatest benefit result from them, a temperature of 103° to 106° F. falling in two or three hours to 100° F., and again, if recurrence. The injection used was a mixture of carbolic acid and water, one part to ninety, used as hot as the patient could comfortably bear it—about 116° F.—and in large quantity, or until the fluid came away clean, and repeated according to the symptoms, generally three or four times a day for two or three days, when, if there were no recurrence, they have been gradually left off. The injection has been made through a tube corresponding in shape to a male catheter, but perforated near its end with numerous small holes spirally arranged, for the better dispersion of the fluid; but should the os not be freely patulous a double catheter should be substituted. It is very rarely that there is not a decided fall of temperature within two or three hours after an injection, frequently not to rise again. Sometimes, perhaps in half the cases, the temperature will again go up, and the process will require to be repeated accordingly. Dr. Richardson stated that he did not use intra-uterine injections without special symptoms, but in case there were an offensive lochial discharge, with a rise in temperature which was not accounted for by the coming of the milk, such injections would be indicated. Vaginal injections, on the other hand, he used in all cases, both in hospital and private practice, as a preventive measure. Three months ago very high temperatures were running at the Lying-In Hospital, and vaginal injections had, as it happened, been interrupted for some time. The injections were renewed, and the temperatures all fell again within two weeks.

Dr. C. E. Stedman remarked that he had just finished

attendance upon a case of labor in which the pulse rose to 130 and the temperature to 104° F. There had been no vomiting; chill, nor offensive lochia, neither was there cause for alarm, as Dr. Stedman had conducted the patient through very severe labors before in which similar phenomena, which were simply peculiar to the patient, had appeared.

A healthy patient whom Dr. Stedman had delivered a month ago complained upon the third day that something was protruding from the vagina. A long string of membranes was extracted, entirely free from odor. No injections had been used; no harm resulted.

Dr. Bixby remarked that in an extreme case of puerperal fever, as well as after the removal of intra-uterine fibroids, it would be desirable to establish a constant irrigation of the uterine cavity.

Dr. Richardson agreed that that would be the perfection of treatment if it could be made practicable. In this connection he spoke with approval of a bed-pan in regular use at the Lying-In Hospital, the invention of Dr. Joseph Stedman. Its advantage consists in a nozzle for the attachment of a rubber waste-pipe.

Dr. Lyman held that a woman should have a clean vagina as well as clean face and hands, and that vaginal injections should be used as a matter of cleanliness as well as a safeguard against possible infection.

Dr. Richardson said that we should use them on account of possible fissures along the course of the vagina, and because we do not know when we are going to have trouble and when not. Of course, to completely carry out this idea of antiseptic obstetrics, we should use intra-uterine injections also, so as to avoid the danger of absorption within the uterus, but with our present appliances and lack of skilled nurses he did not consider that method safe, except where danger actually threatened.

Dr. Sinclair said that he had very little to add to what had already been stated. At a previous meeting he had read a case of death from septicæmia, occasioned by a decomposing clot and portion of membranes in the uterus. At the autopsy he felt that life might have been saved had uterine injections been employed. In his last three months of service at the Lying-In Hospital eight or nine cases of septicæmia had occurred, and the situation was alarming. Vaginal injections were dropped to diminish

the chance of carrying the disease from one patient to another. The use of intra-uterine injections of permanganate of potash, from once or twice daily to once every three or four hours, was instituted for the first time, and lives were undoubtedly saved by the procedure. The adjuvants employed were quinia, beef essence and brandy, and sponging with diluted alcohol. One patient, who was extremely low, consumed a bottle of brandy daily without intoxicating effect, and she took in all, daily, eighty grains of quinine and an equal amount of salicylic acid.

Dr. Stedman said that in the case recently read by him before the society, there was no doubt that life was saved by intra-uterine injections. The temperature went down at least two degrees after each injection.

Dr. Richardson, in answer to questions by Dr. Boardman, stated that he had never observed any fall or variation of temperature whatever from the use of vaginal injections which were as hot as the others.

Dr. Hosmer asked Dr. Hodgdon whether his puerperal patients were usually free from offensive lochial discharge. Dr. Hodgdon replied in the affirmative. Dr. Hosmer stated that his standing direction to the nurse was to administer a carbolic injection *whenever* (every hour if necessary) the lochial discharge gives rise to the least unnatural odor. He supposed that Dr. Hodgdon simply intended to say that his experience had included a period (now passed by) in which cases with bad symptoms were presenting themselves in rapid succession.

Dr. Sinclair said that if the lochial odor became foul, one would find a fall of temperature.

Dr. Ingalls remarked that foul odors were especially obnoxious to him, and that he was quick to perceive them. Of late years he had very rarely had offensive discharges after delivery in his cases, and he had never been obliged to inject the uterus. The vagina has to be kept clean quite often, indeed, always. He had never had a case of puerperal fever, but had seen several in consultation. For that matter, out of two thousand cases he had never had a placenta prævia, and but three cases of convulsions.

Dr. Abbot stated that he had never even seen a case of puerperal fever.

Dr. Sinclair reported a case as follows :

Mrs. ———, seen in consultation on May 24, 1879, with

three other physicians, one of whom was the husband of the patient, had substantially the following history: Age twenty-two, married eighteen months, never strong, said to be advanced seven months in her first pregnancy. Her health was sufficiently good until the end of the sixth month, when she developed signs of renal disease, with extensive œdema, for which she was treated. The swelling disappeared from the face and extremities, but not the albumen from the urine. In the midst of this apparent improvement she was suddenly seized with convulsions, which recurred frequently and severely. Consciousness became less and less. She was treated by cathartics and enemata, and the paroxysms somewhat mitigated by the inhalation of ether. Urine taken from her bladder during my visit became nearly solid on heating. She was sufficiently conscious to make resistance to the use of the catheter. In conference with the gentlemen already referred to, who had watched the case from the beginning, it was agreed that premature delivery was justifiable, and it was effected in one hour and three-quarters by manual dilatation of the cervix. The child was turned, was still-born, but was alive when first touched in utero. It was small. There was no injury done to the soft parts, and ether was given during the process of delivery. There was no unusual flow, and the uterus contracted normally.

About an hour after the uterus was emptied she became extremely restless, turning from one side to the other every minute; pulse rapid, temperature 101° F. This disagreeable condition was quieted by opium, and she rested calmly for several hours. During the following day (25th) she became somewhat more conscious, and it was then observed that she was blind. Abdomen tympanitic. The subsequent behavior of the case is given from the report. On the 26th, the tympany was less. Vaginal douches of carbolyzed tepid water were commenced; lochia natural; blindness continues; seems to comprehend when spoken to. One and a half pints of urine, by catheter. Density 1020. Albumen one-eighth; hyaline and granular casts. 27th. Pulse 96, temperature 101° F. More conscious; eyes the same; flatulency; less tenderness of abdomen. Urine the same. Takes food more readily. 28th. Two pints of urine by catheter. Some tenderness of abdomen on pressure; lochia well; sight

returning; recognizes family and physicians. 29th. About the same. 30th. Two pints of urine by catheter in twelve hours; odor disagreeable. Albumen one-half. Microscopically as on 26th. Pulse 100. Milk in breasts. June 4th. Soon after a vaginal injection there came suddenly a flow of blood from the vagina to the extent of six ounces. Pulse 110. Ergot was given, and a tampon used. 6th. One pint of urine withdrawn in nine hours. Density 1010. Albumen one-fifteenth. 7th. Very comfortable, but the temperature 102° F. Urine one and one-third pints in eleven hours. Albumen one-twentieth; slight mucous deposit. 8th. Urine, one and a half pints in eleven hours. Milky appearance; putrescent deposit of mucus. Nine P. M. Recurrence of hemorrhage from the vagina. 9th. Urine withdrawn; one-half pint in twelve hours; cloudy, putrescent, alkaline. Albumen one-sixth; disintegrated granular casts. Pulse 128, temperature 101° F. 10th. Had a comfortable night. At ten o'clock, A. M., pulse 134, feeble; slight hemorrhage from vagina; vomited for the first time this A. M., and several times during the day. 3:30 P. M. Pulse intermittent. Sinking. Jactitation. Sighing. Died at 5:45 o'clock P. M.

On review of this case my reporter stated that the temperature ranged from 100° to 102.5° F., and the pulse from 100 to 112 until the day before her death, when it mounted higher; that she took and retained food, and seemed to gain until the 9th, or even later, when she suddenly collapsed. The flowing was not profuse at any time, the whole loss not exceeding eight to ten ounces. The albumen in the urine diminished after delivery, then gradually increased until the time of the hemorrhage, when it again diminished. The uterus was well contracted at time of death.

Therapeutic Action of Quinine.

IN the March number of the *Indiana Medical Reporter*, Dr. J. W. Compton reviews at length the therapeutical action of quinine, and urges upon the profession the importance of recognizing in it an agent for good, not only as an antimiasmatic, but as an antiseptic, antiphlogistic, antipyretic, antineuralgic, prophylactic, and probably oxytocic. Quinine is universally conceded to be the

remedy, *par excellence*, in all forms of miasmatic diseases. It will for a long time preserve, in a fresh state, flesh, milk, butter, urine, albumen, etc., and will check alcoholic fermentation in honey, or in preparations containing sugar; it kills the microscopic organisms that are the immediate cause of these changes. It exerts a poisonous and fatal effect on all infusorial life, and stops their further action upon the system when it comes in contact with them, either in the stomach or in the blood. The antiphlogistic and antipyretic properties may be considered at the same time. The small or tonic or stimulant doses revive failing activity, while the large doses exert a depressing action. If the neuralgia is of a malarial origin, its indication is quite manifest; if of a non-malarial, intermittent character, the influence of the remedy upon the nervous system will prove a valuable curative agent. The prophylactic value of quinine has been tested in all portions of the world, and small daily doses administered to persons exposed to malarial influences have been found to be quite as valuable in preventing malarial diseases as it is efficacious in curing them. It is only when the practitioner considers the action of this remedy in accordance with these principles that its diverse actions are properly understood. In regard to the oxytocic properties, the writer should feel inclined to pass them by without comment, were it not for the diverse and opposite opinions which prevail in the profession; and for the apprehension he entertains, that many pregnant women, suffering from malarial disease, would have their health seriously impaired, even die, from withholding this indispensable remedy in that class of diseases, to the attacks of which they are quite as liable as other persons, and in whose cases the remedy is as imperatively demanded. From Dr. H. C. Wood we learn, that in 1871 Dr. Monteverdi announced that quinine is a uterine stimulant, causing at times, in the gravid womb, contractions sufficiently violent to induce abortion, and when given during labor, intensifying greatly the uterine pains, and after labor causing rapid expulsion of the placenta, and arresting uterine hemorrhage; affirming furthermore, that in amenorrhœa or in menorrhagia from uterine inertia its action is no less marked. Dr. Jos. J. West says that many regard the use of quinine as dangerous, even criminal, in any disease in pregnant women. The belief of these persons is that

this substance exercises a direct influence upon the uterus, causing powerful contractions and expulsion of the foetus; and to support this notion, they are ready to bring forward innumerable instances of abortion after its use, and of cases of sudden suppression relieved by the prompt use of the same remedy. He then goes on to say that those abortions, etc., were due to the intermittent fever and not to the drug. In this latter opinion, Dr. Compton's experience would lead him to the same conclusions. Opposed, however, to the theory that ascribes abortifacient properties to quinine is the fact that in malarial districts it has been an indispensable remedy for a great length of time in miasmatic diseases, being used indiscriminately without any such property being attributed to it until a comparatively recent date. Many authorities could be named who give the remedy to hundreds of pregnant women, without, in the slightest degree, producing uterine contractions. Altogether, it is a reasonable conclusion, that instead of quinine originating and producing the abortions charged to its account, malaria causes the contractions in a way easy to explain, and that the drug is the most reliable remedy we possess to prevent the abortion by arresting the disease. The tendencies of intermittents to disturb the nerve-centers, to produce a shock of the system, is well understood. They also produce serious congestions of internal organs in which the uterus receives its full share of engorgement, sufficient to stimulate it to contraction. The uterine blood-vessels become engorged, and a collection of serum and blood between the chorion and amnion will detach the placenta; hemorrhage takes place and abortion follows. Another fruitful source of abortion is the excessive vomiting so frequently the result of gastric trouble in malarial disease, and all this is for the want of the timely use of quinine to control the tendency of malarial attacks to produce shock and congestions. It may be true, that, by virtue of its tonic stimulant properties transmitted through the nerves to the muscular system, quinine may be utilized in cases of inertia of the uterus, and that tonic doses may impart sufficient energy to enable labor to be completed without interference; yet, as a remedy, it could not be relied upon to originate pains or to materially hasten delivery on other physiological grounds. He cautions all who may have this class of diseases to con-

tend with, that they will find malarial disease a much more fruitful danger to pregnant women than is the remedy necessary to break up an intermittent.

[Another very important property of quinia, and one which should not be lost sight of, is its power to lessen or check after-pains. Over and over again, we have seen after-pains, whose severity was hardly equaled by those of the third stage of labor, effectually cut short by the timely administration of several large doses of quinine; and apart from the good it does in checking after-pains, it is fair to suppose it exerts some good in this condition as an antiseptic. Its value as an agent to prevent the shock of an operation, as well as that of labor, is becoming better appreciated every day. So thoroughly are we convinced of its efficacy, that we should as soon think of performing an important operation without chloroform or antiseptic precautions as without the previous administration of ten or fifteen grs. of quinine.—H. M. T.]

Scarlet Fever.

[Extract from a Lecture by Dr. ALONZO CLARK, Professor in the College of Physicians and Surgeons, N. Y., published in *Medical Record*.]

WITH reference to the management of scarlet fever there is but little to be said. We can not do much for it. If it be a mild case it will run a gentle course, and you have very little to do. If it be a bad case, it will have its bad features in spite of the best that you can do for it. I have sometimes thought that in the bad cases the best thing to do was just to let the child lie and take a certain amount of champagne, the quantity to be controlled by the pulse, and try nothing else.

In mild cases of scarlet fever, when the eruption appears, the fever diminishes in severity; in severe cases it increases, and the temperature may go up to 106° , 107° , and it is reported to have reached 111° . Of course such are bad cases. When adults have scarlet fever they are very apt to have little or no eruption, but the febrile movement and the sore throat. The disease is a great deal more fatal in children than it is in grown-up persons. Grown-up persons usually bear it pretty well. Now and

then you will hear of a person of mature age dying of it, but the greater number of them recover.

The redness of the eruption is produced by the congestion, an active congestion of the capillaries of the skin. You know they rise up in knuckles coming up and going directly down again, and it is these enlarged knuckles of the capillaries that make the separate points of the scarlet fever eruption. As I said to you, it is almost an inflammation, for there is frequently some œdematous effusion, and the cuticle is destroyed by the inflammatory action, so that it exfoliates in the manner that I have described.

There is a point of considerable importance which I omitted to state, and that is the effect of the sore throat upon the hearing. The inflammation of the throat occasionally affects the tubes that communicate with the middle ear, and the inflammation extends to this particular part, the result of which is, frequently, a loss of the tympanum. I once saw a little ring of bone ulcerate away, carrying the tympanum with it—a ring of bone out of the bones of the head, just large enough to hold the attachment of the tympanum, and the tympanum was unbroken. Of course that took some time to be accomplished. But the tympanum is often broken, and the bones of the ear are not unfrequently lost. Dr. Pete, who for so many years had charge of the asylum for the deaf and dumb, wrote me a great many years ago for an explanation of the fact that in 1829 there was a very great increase in the number of deaf brought to that institution. The deafness was caused by scarlet fever, and he wanted to know what made scarlet fever so fatal to the hearing, and it is that that led me to read the statistics yesterday, showing that in 1829 more cases of scarlet fever occurred than from 1804 up to that time; and, of course, with an increased number of cases, it would be reasonable to suppose that many of them were severe, and that the effect upon the hearing would be more markedly noticed. This is sometimes a complete deafness, which remains, of course, for life. Occasionally it is an impairment of the hearing of one ear, or of both ears.

I spoke to you of the period that elapses between the inception of the contagion and the development of symptoms. But another interesting point is, how long does the poison last in a person who has had scarlet fever. Very

few observations have been made in regard to that. I have but one that is reliable, and that was in the practice of Dr. Cheeseman. He had a patient who had scarlet fever, and that patient had a little sister, I think younger than he. They were both children. The doctor told me that he had separated the two children; he had sent the well one to an aunt who had no young children in the house, and he wanted to know how long he should keep these two children apart—how soon the sister might visit her brother, having had a regular run of scarlet fever. I told him to keep them apart as long as he could, and he did succeed in keeping them separate for six weeks, and then the sister went down to the aunt's. The boy did not go home. The sister went down to the aunt's and took her dinner there, and the two children kissed each other, and in four days afterward the second child was attacked with scarlet fever. There was no other exposure known. If that observation was correct, why then here is a poison lingering in this person—in his clothes, in his hair, in his body, in his breath—we know not where, for a period of six weeks after he was attacked with the disease.

¹⁻²¹ With reference to the treatment of this affection, I made a remark yesterday—and only one, because time did not allow me to make any more—that I often feel as if I may about as well not treat the case; to leave medicine entirely alone, and administer a moderate amount of champagne daily. I can not tell you in an hour, it seems to me, the number of agents that are used for the sore throat. I have applied calomel; I have applied nitrate of silver; I have had children, when they were old enough, gargle with cold water frequently; and of these the cold water suits me best. But you can not make use of it in a great many; they are not old enough to gargle. If there is a membranous production in the throat, I am very much attached to the spray of lime-water. Take the lime-water of the apothecary shop and put it into one of these little atomizers, or rather spray-producers; have the child's mouth opened, and throw the spray into the mouth when it is taking an inspiration, and let it go down into the fauces. If you can persuade him to let the mouth remain open with the tongue depressed, shower the fauces with the lime-water. What he will swallow will do no harm. In a case of regular diphtheria that I saw some time ago, this spray was used. The boy was old enough to have

some discretion. It was used industriously, and within about six or seven hours the membrane exfoliated and came off whole. The boy was entirely relieved for several hours, and then began to have heavy breathing again. The spray was again used, and another membrane was coughed up, and again came rest and easy breathing and a diminished frequency of pulse; and this was repeated five times, and every time followed by expectoration or discharge of a whole membrane. It was not in fragments. The sixth occurrence of this sort happened in the night, and the parents, though intelligent people, were persuaded that they could not stop the disease, and they allowed the boy to go on and suffocate. I do not know why the sixth formation might not have been discharged as well as the fifth, and if either of the physicians in attendance, Dr. Thomas being one, had had his way, he would have had the administration continued as long as the boy had any breath, if the membrane formed anew.

This same lime-water, to be thrown upon the forming membrane, I believe is the most efficacious thing you may have. It does not apparently disintegrate the membrane, but it seems to produce a breaking-up, of its attachments to the living tissue.

We know a little something about the application of cold in scarlet fever. A physician of Connecticut, twenty years ago, came to this college and explained to me his treatment, and he was persuaded that it was more efficacious than any he had ever practised before, and it was to use the wet sheet. Strip the body naked and wring a sheet out of cold water and spread it over the child, and allow the body to be cooled partly by the cold sheet and partly by the evaporation of the fluid that was in it and on his body. It is perhaps five or six years since a very similar recommendation has come from Germany, and the bath is very much used in cases in which the temperature is very much elevated. The bath should be at a temperature of fifteen or twenty degrees below the temperature of the body, and the patient to remain in it until the thermometer indicates a marked fall in the temperature of his body. This does not seem in any instance to cause a recession of the eruption. The profession has been afraid of cold in scarlet fever, lest it should break up the regular course of the eruption; but it does not seem that that has been the result. And here,

with reference to the recession of the eruption, as we have but few definite facts with regard to it, I will read to you those that I have quoted from Levy, in his treatment of the young soldiers of France. He says, in the first place: "A recession of the eruption does not occur in more than one in a hundred cases; ninety-nine will run the regular course. But he has collected twenty-one instances of recession, and he says that in fourteen of these twenty-one there was no effect that could be observed. It was merely a recession and an end of the disease."

In one, sudamina appeared the next day—little minute blisters; two had slight diarrhea; one vomited the next day; in one varicella appeared two days after; in one tubercles followed at some distance of time subsequently. You see then that the recession is not so formidable a thing. The remark was, that we had been afraid of the application of cold, fearing the consequences of a recession of the eruption. But this Connecticut physician told me that he never saw it occur, and the German physicians seem to be trying cold air upon their febrile eruptive diseases, so that we shall have more light on it before long, probably.

There may be recession and removal of the eruption, as in a case that occurred in Boston a few years ago, reported to me by the late Dr. Bartlett. Scarlet fever and measles were both in one family. There were three children. One of these children, that is the third, had scarlet fever; two had had scarlet fever and measles before the third child had scarlet fever. The eruption continued two days and receded, and immediately the eruption of measles took its place, or, rather, the symptoms of measles, and the eruption in time. The measles ran its course, and on the subsidence of the measles eruption, the scarlet fever eruption came again, and lasted three days, making five days for its duration in all, with an intermission of over a week. These diseases, I may remark here, though it is a little out of place, seem to have great respect for one another. They do not run their course at the same time in the same person, but if the patient have been exposed to the contagion of both, the one that has precedence will run its course, and then the other will take its place.

I saw an instance of this that was quite remarkable. A child had diphtheria, and had been exposed to the poison of both scarlet fever and measles. The symptoms

of scarlet fever appeared, and the membranous disease of the throat ceased. The scarlet fever ran its course, and measles appeared and ran its course. The child survived, and then the diphtheria appeared again and killed the child. It waited two weeks and more for these diseases to have their place and run their course, and then was revived; or, it was the result of the measles, which is not very common; or, it may have been a new infection, for that matter, I can not say; but it did give place to scarlet fever and then to the measles, and then there was a renewal and a fatal result.

There are certain other things connected with this disease that require attention. When the scarlet fever eruption is of a black color, when there is hemorrhage under the cuticle, it is an evidence of a very bad state of the blood, a condition approaching that of scorbutus, and I have always advised just the same things that we would give in scorbutus—quinine and the vegetable acids pretty freely. When you have that immense swelling in the throat, and the swelling of the lymphatic glands outside, and a disposition to suppuration in these glands, and even hemorrhage, I do not know what to advise you to do. I have never done anything that did any good. Such cases I believe are predestined to be fatal.

I have something more hopeful to say regarding the sequela of which I spoke to you—the œdema. I was called into a family where there had been four children. Three of them had had scarlet fever. They went pretty easily through the scarlet fever. They were attacked with œdema and in a few days had convulsions and died, one after another. There was but one child left, and that had scarlet fever, and the father and mother desired the family physician to get assistance. When this œdema occurred I immediately advised that the child be put in a warm bath; that he be kept in a warm room after being taken out of the bath and kept in bed, and that enough clothes be kept upon him to keep him in a constant perspiration—not profuse, but a gentle perspiration day after day. You remember that there are casts and albumen in the urine in this condition. It is a kind of Bright's disease—an acute Bright's disease. The relations of the kidneys and skin are well known to you all. When the skin is chilled the kidneys act more vigorously; when the perspiration is free upon the surface the kidneys seem to act in a much

more gentle way, and this suggested to me, first, the use of those means that will keep up a constant but gentle perspiration upon the surface. This was done for many days and the child recovered. It had no convulsions. I suppose that under the circumstances a portion of the urea is eliminated by the skin; indeed, I know it is, for I have not unfrequently perceived in those who had disease of the kidneys the odor of urine on the surface of the body and in the breath of the patient. At any rate, in practice, this seems to be by much the more successful mode of treatment. The bowels should be kept free, not purged vigorously, but a laxative should be given as often as seems to be necessary, and all the rest consists in an unirritating food, what of drink the patient wants, and this perspiration kept up.

There are many children who will not consent to lie in bed under these circumstances; they do not *feel* sick. If you meet such patients your alternative would be to dress them heavily in flannel, to keep their feet well clothed, and let them run about in the room, the temperature of which is kept steadily at 74° or 75°. In that way you can keep up a perspiration.

In regard to the deafness, one of the sequelæ, I have nothing to say about it. It depends upon disorganization that is the result, secondarily, of the inflammation of the throat, and that, I have told you, I have not been able to treat with any very marked benefit. The best of all the means is gargling where the child is old enough, with cold water, or cold carbonic acid water.

Milk as Food.

WITHOUT pursuing the theoretical argument further, we stop to look at some considerations of a more practical nature. To the advocate of the free use of milk, we would say: Why that bad taste in your mouth? that brown fur upon your tongue? that rank odor from your body? that dull feeling in your head? that drowsy stupor after meals? Can you give a satisfactory answer? Can you tell why they who use only water as a drink, and drink water only when thirsty, rarely or never are troubled with such symptoms? Is there any other answer to be given, than that milk is highly organized animal matter, which be-

comes rapidly putrescent when subjected to a temperature like that of the blood, and which is carried by the circulation through every organ and every tissue of the body? You have noticed none of these results in your case? perhaps not. Users of tea or coffee, of beer or brandy, of tobacco or opium, often fail to see any of the deleterious effects upon themselves so generally ascribed to the use of these popular, but hurtful luxuries. Possibly, with strong digestive powers and great physical activity, all the milk used in rare cases may be well assimilated, and none of these unpleasant sequences be observed. But that, in most cases, they do exist, will hardly be questioned by any careful and impartial observer; and when, as is too often the case, cross and negligent attendants, untidy milkers, and slovenly dairymaids, with filthy, badly lighted and badly ventilated stables, or no stables at all, foul and decaying provender, impure water, insufficient exercise, and uncomfortable conditions generally, combine their influence, the conclusion is inevitable that the supply of milk can not be of the best quality, if fit for use at all. That the lacteal secretion serves as a vehicle for the elimination of impurities from the body, does not admit of doubt. Note the odor and taste of turnips, cabbages, wild garlic, ragweed, etc., in the milk and butter of cows feeding upon them.

These disagreeable odors and tastes are not the only things excreted in this way. Poisons, some of them of the most deadly nature, are thus carried off also. Before the woodlands were improved in the now famous Blue Grass Region, in Kentucky, cattle running at large often suffered from short supplies. The early opening of the buckeye buds, and the dropping of the mature fruits in their season, often tempted the hungry animals to feast upon them. Cows giving milk freely generally escaped injury; but the calves feeding upon their milk, and dry cows, did not fare so well. "The cows, or the calves, are buckeyed," was often heard there in those days. Many recovered from the poisoning, but some died. In those localities where that mysterious disease known as "Milk Sickness" prevails, or did prevail in times past, a still more convincing illustration may be found. Cows giving milk rarely have the disease, while their calves, and the whole family of the owner, feeding upon the milk, take the "Trembles," as it is called. Dry cows are also quite sub-

ject to it. They who know anything of this malady, need not be told that it often terminates fatally to the human subject of it and to his domestic animals. Without the use of milk and butter, many persons live in the same localities with impunity.

A gentleman and lady who spent some years as missionaries to the Indians where Omaha City now stands, long before the aborigines had been crowded from the homes of their fathers, are responsible for this statement: "Most of the whites connected with the mission, and with the Government agency, lived upon high and well-drained localities. The best pasturage was on the low grounds along the river and its tributaries, where fogs and malaria prevailed. The cattle grazing on these low lands being regularly milked, seemed free from disease. Persons connected with the mission and with the agency were subject to agues and intermittents only when they used milk as a part of their diet, and all such had it."

How can this be accounted for, except on the ground that the malarial poison was transmitted to them through the milk used for food?

The fearful consequences of using impure milk, and the general prevalence of its use, is occasionally brought to light by an examination of the condition of city dairies, and an inquiry as to the health of the families patronizing them. A few hours spent in the study of the reports of such investigations would be interesting and profitable to any one seeking information in this direction.

Some eight or ten years since, the medical journals of Great Britain and this country contained an interesting and instructive report of an investigation into the causes of typhus fever, as it prevailed at Islington, near London. The number of cases was about 160, and nearly all belonged to families taking milk from one dairy. The few exceptional cases had taken meals and used milk with such families. The dairy was examined, and found apparently in good condition. A more careful search revealed a tunnel, cut by rats, underground from beneath the drain at the rear of the stables, and opening at the other extremity into a tank at the opposite side of the yard. The water in the tank seemed pure, and was used for rinsing milk cans. In dry weather the cows were sometimes watered from it. These apparently trivial causes were deemed

sufficient to account for the prevalence of the fever, and with their removal it ceased in that locality.

This case is briefly mentioned on page 49 of "Wilson's Hand-book of Hygiene," where reference to the outbreak of scarlet fever at St. Andrew's, and of enteric fever at Perinth, in 1870, are referred to, and the distribution of the fever-poison accounted for in the same way. It is impossible to tell to what extent contaminated milk may be responsible for the dissemination of disease germs in any case, and it may play an important part in many cases where it is least suspected.

The conclusion from all this, and much more which might be added, may be briefly summoned up as follows:

1. That milk is not natural food for adults.
2. That cows' milk is not natural food for human beings of any age.
3. That while, with some modifications, it may be the best available substitute for the natural food of infants, it should only be used when a substitute is indispensable.
4. That while good milk is better than many other things in use, it is wiser neither to use the milk nor the other things, when better food can be obtained.
5. That milk is often charged with the germs of disease, and with poisonous excretive matter, which are often unsuspected, and which, if suspected, could not be easily detected till their results are developed in the form of contagious or infectious disease.

Neftel's Alleged Cures of Cataract by Electricity.

Sir:—Allow me to say a few words on the reply with which Dr. Neftel favored my note concerning a cataract patient of mine whom he had treated, but whose cataracts I found, on a recent examination, more pronounced than before. I stated that the patient had posterior polar cataract, and had grown nearsighted during its progress, which is not uncommon. Her visual acuteness was, and is still, tolerably good, though the focus has changed. Dr. Neftel has no word to say about the persistence of the cataract. The result of the objective examination shows, beyond controversy, that the cataract was neither cured nor improved.

As to her alleged improvement of sight, Dr. Neftel

writes that "the result of the galvanic treatment has been remarkable, since the patient, at the time she came to him, was unable to distinguish any features, or even to see only her own fingers. In the course of a few weeks under the galvanic treatment, she became able to read small print and see objects quite distinctly." To this my reply is as follows: The patient was able to read fine print at the time she came to Dr. Neftel, because she did it at my office, and would have done it at Dr. Neftel's office also had he taken the precaution to shade her eyes, or darken the room so that her pupils could sufficiently dilate. Patients with central opacities of the cornea or lens see almost nothing when turned toward the light, and see quite well when turned away from it. The lady was and is still in this condition, as I convinced myself the other day. This and the nearsightedness explain the apparent improvement of sight. In confirmation of this, I quote from a letter she wrote me March 31, 1880, when I asked her about her sight, the following passage: "I do not wish to give you the impression, nor have I to any one who has referred to me, that my vision is restored to the strength and clearness of younger years; for while my sight is so much improved in looking at things near at hand, objects at a distance, and in the glare of outdoor light, are still obscure." Thus, Mr. Editor, not only the objective examination, but also the subjective, and the statements of the patient furnish positive and sufficient proof that the electric treatment has not cured Mrs. W.'s cataracts, nor can even the slightest evidence be brought forward to show that it had any effect on the eye at all.

—*H. Knapp, M. D., in Medical Record.*

American Medical Association of 1880.

THE CLAIMS OF PEDIATRIC MEDICINE.

AN address, by Dr. A. Jacobi, of a very appropriate and interesting character, reviewed the claims of pediatric medicine. In commencing the address, he very pointedly referred to the difference between special practice and special study. His statements of the gradual encroachments of the various specialties upon the domain of the general practitioner created some amusement. In replying to the question: "What is left for the general practi-

tioner?" he said, "The general practitioner will in future obtain, as the legitimate province of his practice, the male half of mankind, and very old women, and very young children, provided he will keep his hands off their eyes, ears, nervous system, lungs and heart, urinary organs, venereal diseases, nose, pharynx, larynx, skin, hair and corns." He pointed out the fact that the multiplication of specialists is due, first, to the immense progress of the science; and, secondly, to the attainment of special skill and dexterity by certain individuals, that leading them to select certain branches as their favorite practice.

The pathology and therapeutics of childhood do not mean the same as in adults; the difference is not merely a matter of dose, as is frequently supposed. The light that has been recently thrown upon infantile disorders, due to malformation, defective evolution, or to abnormal development, has led to great improvement in the methods of treatment. The peculiar characters of infantile bowel diseases, pulmonary affections and zymotic diseases, require special study of children's diseases for intelligent practice. Functional disturbance also acquires more prominence in disorders of children than in adults. Since twenty per cent. of children do not survive the first year, and a very large proportion of these unfortunate cases of premature death are due to defective feeding, it was pointedly inquired whether special duty is not required for the practice in this field of medicine, whose importance it is difficult to overestimate. A special section on the pathology of children would include the consideration of questions of hygiene, such as feeding, nursing, clothing and baths. He concluded by declaring that the establishment of this section was required by practice even more than by theory, as the majority of the general practitioner's patients are infants and children with a symptomatology of their own, diseases of their own, and therapeutics adapted to their special requirements.

Dr. Jacobi moved that this meeting recommend the American Medical Association to adopt such an amendment to the constitution as would create a Section on Diseases of Children.

Dr. Busey, of Washington, and Dr. E. W. Schauffler, of Missouri, spoke in favor of the resolution, which was unanimously carried.

BRIGHT'S DISEASE IN CHILDREN.

Dr. S. C. Busey, by invitation, read a paper entitled "Bright's Disease in Children Caused by Malaria," in which he gave the clinical reports of three cases of children suffering from malarial cachexia, who subsequently presented all the appearances of marked renal disease. In these cases life is usually terminated by uræmia, pulmonary œdema, or cardiac insufficiency. Nutritious and easily digested food, and chalybeates constitute an essential part of the treatment; the citrate of iron and quinia is generally preferred in these cases. Digitalis (the tincture, or in the form of digitalin), cathartics such as elaterium and compound jalap powder, are especially indicated. In dropsy, Eberle's formula (without the tartar emetic) he had found very valuable. Diuretics are indispensable in proper cases, but unreliable in many.

Diaphoresis by the hot-air bath, or by pilocarpine, is a useful adjunct to the treatment; and multiple puncture, for the relief of œdema, was much lauded as a means of relief.

Dr. Schaufler, of St. Louis, did not see the direct connection between malaria and Bright's disease, and thought that the proposition was not proven.

Dr. Busey disavowed supporting the view that there was any direct relationship between renal disease and malaria; but if the latter be neglected it may lead to organic changes in the tissues, of which nephritis is a sequel.

Dr. Jacobi suggested that in such cases the renal disorder might be caused in two ways: first, lowering of circulation leading to albuminuria; though this is not inflammation; a spontaneous thrombosis may, however, occur from debility of the circulation under such circumstances, which might be the center for such inflammation; malaria leads to extensive destruction of red-blood cells and the pigment circulating in the blood is known to lead to embolism in other organs, and may give rise to nephritis, for there are some cases on record of Griesinger and Rosenstein in which nephritis was due to malaria.

Dr. James L. Green, of Elizabeth, N. J., reported a case of

CONGENITAL MULTIPLE LYMPHECTASIA,

in a male, born at eight months of utero-gestation, who presented at birth a large cystic tumor upon the poste-

rior portion of the pelvis. In the abdominal region in front, and at the right side, were two other cysts which had no connection with each other, or with the posterior tumor. Two days later the fluctuating tumor was aspirated and 120 grammes of fluid removed, which was clear, straw colored, specific gravity 1007, slightly saline, and albuminous (about $\frac{1}{8}$) on boiling; nothing but a few blood corpuscles were observed under the microscope. In ten days the sac refilled to its former size. Dr. A. Jacobi now saw the case and pronounced it one of lymph angiectasis, and recommended removal of a small portion of the fluid, and injection of a small amount of iodine. On two subsequent occasions this operation was repeated, very little disturbance being produced; the slight uneasiness of the child passed away in two hours. This tumor has considerably diminished in size, but the tumors in front, upon which no treatment was attempted, have increased, and a small one has been developed upon the left hip opposite the acetabulum.

Dr. Busey, being invited by Dr. Jacobi to discuss the paper, spoke at some length upon the pathology and treatment of lymph tumors, and said that a lymph tumor may be distinguished from varicose veins by the multiple character of the former, and by the isolation of the latter. If the vascular connection of the tumor can be reached, so that they may be obliterated, a good result may be hoped for. If treatment is neglected, the patient generally dies from phthisis after puberty.

Dr. Jacobi said that since the tumor is now smaller than at the beginning, the tincture of iodine injections should be continued, and more frequently repeated, being careful, however, not to excite too much febrile reaction in the child. He distinguished two forms, one in connection with lymph trunks, and the other isolated. In the former the injection of iodine is the best treatment; the latter kind may be extirpated, and he had twice dissected out such isolated tumors in adults.

A variety of methods of treatment by ablation and actual cautery, pressure, slow drainage, and other plans, were suggested.

Dr. Schauffler reported a successful case of excision of two such lymph tumors, in the practice of Dr. Taylor, of Kansas City, since deceased. The child recovered from the operation, but subsequently a hard, brawny growth

appeared, like elephantiasis, which the same surgeon removed by dissection. The patient died on the second day without obvious cause, having completely rallied from the operation of the day before.

The Chairman of the Section, Dr. Busey, was authorized to present to the General Session, to-morrow, the resolution passed by this temporary Section, requesting the adoption of an amendment to the constitution, creating a permanent Section on Diseases of Children.

The papers read were referred to the Committee on Publication.

DEATH-RATE OF THE RICH AND THE POOR,

was read by the Secretary in the absence of the author. He stated that the death-rate was higher among the poor, because of the low wages which they receive. Statistics were given to show that in countries where the people were prosperous, as in New Zealand and Australia, the mortality was not so great. Alcohol had been cited as one of the frequent causes of high death-rates. This the author sought to disprove by means of various statistics. As to the mortality of trades, it was not the trade itself that caused the increased number of deaths, but the small amount of wages that was given, insufficient for persons engaged in them to provide for the necessities of life. In conclusion, the author said, if we wished to lower the death rate, the birth-rate must also be lessened.

On motion, the paper was referred to the Association, with a request for its publication.

THE RELATIONS OF THE MEDICAL AND LEGAL PROFESSIONS TO CRIMINAL ABORTION,

was read by the author, Dr. E. H. Parker, of Poughkeepsie, N. Y. The article was based on three cases of criminal abortion, in two of which the parties implicated escaped punishment, in the third the physician who operated was convicted, but pardoned before completing one-half of the term for which he was sentenced. The main object of the paper was to rid the community of the prevalent idea that abortion was not a grave offense. He advocated that the full penalty of the law should be inflicted. In concluding, the following resolutions were offered:

"1. Abortion should never be brought on by the use of medicinal or instrumental means, unless necessary to the

safety of the mother, in consequence of pathological complications.

"2. The destruction of the fetus in utero for any other reasons properly ranks with other forms of murder.

"3. Abortion produced artificially always places the mother's life in jeopardy, and thus becomes a double crime.

"4. The severe punishment of the operator, whenever possible, without any probability of executive clemency, is due in justice to the honorable members of the profession, and yet more to the community at large."

The discussion which followed was participated in by Drs. Antisell, of Washington, D. C.; Stevenson, of Poughkeepsie, N. Y., and Edwards, of West Virginia, all of whom held that the law was already sufficiently explicit on the subject. On motion of Dr. J. M. Jones, of Washington, D. C., the resolutions were, on division, laid upon the table, and the paper was referred to the Association, with a request for its publication.

THE THERAPEUTIC VALUE OF THE GALVANO-CAUTERY IN DISEASES OF THE NASO PHARYNX.

was read by Dr. W. H. Daly, Pittsburg, Pa. The author proceeded to elucidate the application of the galvano-cautery in destruction of the turbinated bones, granulation-tissue and adenoid growths, alluding to its possible accidents, as erysipelas, destruction of the septum nasi, eschar of the mouth of the Eustachian tube, with consequent otitis media purulenta and perforation of the membrana tympani. Dr. D. has used the cautery extensively in these cavities with success. Subjective and objective symptoms following its use were detailed, as, for instance, pain in the eye of the same side when the cautery is applied to the anterior ends of the turbinated bones, pain in the opposite ear when the cautery is applied farther back, etc.. It is found that the more posterior the application the more insensitive are the parts. Some patients exhibit symptoms of approaching chill and fever after the application of the galvano-cautery. Dr. D. doubts its general acceptance on account of its expense and capricious behavior; its application, however, is attended with less pain and more surety than the usual caustics, nitrate of silver, caustic potash, etc. No remarks followed the reading of this paper.

Dr. H. Knapp proceeded to a demonstration of models to illustrate

THE REFRACTION OF LIGHT BY ASYMMETRICAL SURFACES, to be followed by remarks on the determination and correction of astigmatism.

The principles of astigmatism are well known. Refractions from asymmetrical surfaces, and Sturm's focal intervals were detailed on the blackboard. Intermediate surfaces between the principal meridians have no foci. Suppose these surfaces are applied to the cornea; as these surfaces are rotated around an antero-posterior diameter, a parabolic ellipsoid is formed, the normals of whose principal meridians (vertical and horizontal) form regular surfaces, and have constant foci; but the intermediate meridians furnish in rotation no regular planes; this irregularity of planes of the intermediate meridians makes the location of focal points impossible. An ellipsoidal spheroid was introduced with vertical, horizontal and intermediate meridians represented by pins, by which it was easy to see that the last-named planes were irregular and "askew" (K).

Sturm's model makes the demonstration of ametropia possible, but not that of astigmatism. The familiar model of Helmholtz renders the demonstration of astigmatism possible, as may be seen by the different adjustments of the safety pins upon the strings.

With this theoretical demonstration the statement was made that the determination of astigmatism was possible by the direct application of these principles. Dr. K. always uses Snellen's test-types, first applying spherical glasses and then correcting the refinements of refraction by the successive application of weak cylindrical glasses, as in the ordinary way.

Schweigger and Scholer, of Berlin, determine astigmatism with a Stokes' lens. Scholer uses also a double-disked ophthalmoscope, one disk containing spherical, the other cylindrical lenses, which is not practical; nor is the Stokes' lens. The latter, however, is used by Horner, of Zurich, one of the most practical European oculists. The old principle of endeavoring to see the smallest retinal vessels in the horizontal images, is the most correct one to follow. K. introduces a model illustrating three points

of retinal focalization at different positions on the same vertical meridian.

A vertical line, divided into three colored threads, gives dispersion lines, and final dispersion images in the same vertical direction, but these images are superposed over each other. Dr. K. deduces from this the use of simple spherical lenses in the ophthalmoscopic disk, as the most feasible. A case was detailed of compound hyperopic astigmatism in the right eye, and of simple hyperopic astigmatism in the left eye of the same patient, which was diagnosed within 1-72 Eng. or 0.5 dioptry. Dr. K. does not correct a power of astigmatism less than 1-72, as the physiological astigmatism is from 1-80 to 1-60. The scope of this paper was happily attained in so far as it served to elucidate the interesting subject of relief for astigmatic patients. The physics of astigmatism as brought out years ago by Airy and Young, and studied latterly by Helmholtz and Knapp, have not changed; to correct spherical aberration in astigmatic eyes by a system of glasses, constructed after proper scientific and mechanical laws, is the aim of the oculist.

Dr. Smith, the Secretary, presented an enucleated eye, in which there was a bony degeneration of the lens, or an osseous proliferation proceeding from the choroid. The eye was shrunk from a preservation in spirits.

Dr. S. S. Jones, of Chicago, volunteered a paper

ON THE INTRODUCTION OF LIQUIDS INTO EUSTACHIAN TUBES AND MIDDLE EAR.

The attempts of Sir Astley Cooper, in 1800, by puncturing the membrane, and pushing air through the external meatus and Eustachian tube; and, later, of Horner, of Philadelphia, of Hinton and Allen, of London, induced the author to resort to one or the other means of introduction of entrance into the tube; that is, by the nares or external ear. He has used liquids in this way for nine years, and is convinced of its advantage in dry, chronic, non-suppurative inflammation of the middle ear. Dr. J. reverses Horner's method of procedure, and introduces liquids through the Eustachian catheter into the tube. He claims that the tube is thus more easily dilated, and will finally better admit air. He has abandoned bougies as dilators. He argues from the benefit derived by proper applications to the post-naval cavity and pharyngeal vault

a similar benefit from the local contact of fluids of proper temperature to the Eustachian tube or cavity of the middle ear. He thinks, too, that the bad influence of sea-bathing upon the middle ear has been overestimated. In a service of two years as naval surgeon in the war of 1861-65, extending from Maine to Georgia, he noticed less acute inflammation of the middle ear when the temperature allowed sea-bathing on the part of the sailors, than when the thermometer was so low as to prevent it. Dr. J. advised slightly saline tubal injections on account of their better tolerance than pure water, or weak solutions of borax, chlorate of potash, etc. Their temperature should be at blood-heat, no force should be used, and the quantity should be regulated by the amount of effect desired. The comfort of the patient, and the subsequent improvement in hearing, operate in the author's hands as warrants for the continuance of the practice.

Dr. Ritchey, of Washington, D. C., finds great advantage in the use of warm injections into the tube. He first uses warm air, and later warm solutions. In a practice of five years he has not found a single acute inflammatory result. In the cases hitherto noted a chill has preceded the inflammatory symptoms, showing changes in the general circulation.

Dr. Knapp's experience is entirely opposite to that of Dr. Jones.

Dr. J. J. Chisholm, of Baltimore, agrees with the author, provided the injections are weak and warm, and uses muriate of ammonia, bicarbonate of soda, or any of the milder alkalies.

Dr. Noyes, of Detroit, corroborated the benefits of judicious tubal injections; he details a case in which a bulging membrani tympani is punctured, with an exit of pus; the Eustachian way is then washed out with warm water successfully. A later case was unsuccessful, and Dr. N. has since abandoned the use of intra-tubal injections.

Dr. Reynolds, of Louisville, Ky., would limit such local medication to cases of drum-membrane sloughing.

Dr. Pomeroy, of New York, is much opposed to the injection of all fluids on account of inflammatory results in the middle ear. In chronic cases of proliferating catarrh, he treats the tube alone and not the tympanic cavity. There is danger of making too strong applications to the ostium tubæ Eustachii; even these must be sparingly and

moderately used. Retention of foreign fluids in the tympanic cavity is a danger always to be thought of—as well as the reaction upon the tubal walls themselves.

Dr. Chisholm, of Baltimore, in an experience of over 1,000 injections into the tube, has not found more than five or six cases of resulting inflammation. He injects the post-nares in the ordinary way, and drives the residual fluid into the tube by air-inflation.

Dr. Ritchey thinks that Dr. Jones' method of injecting through the catheter is preferable, because it is more under control, and the quantity of entering fluid can be accurately estimated. He has never seen any bad results, having confined his medication to mild alkaline solutions.

Dr. Holcombe, of New York, has long since abandoned such injections. The use, as of old, of injections of nitrate of silver, and the salts of iron, should be abandoned. Dr. H. still uses iodized vapors, with impunity. In 1852, he first saw Triquet inject air into the Eustachian tube.

In recapitulating the points adduced, Dr. Jones, the author, thinks it is not only possible to enter the middle ear by the tubal way, but also practicable. He would not use such strong agents as solutions of the metallic astringents. Here enters the question of possible advantage of an induced attack of non-suppurative catarrh. While it is not a risk to be taken *ad voluntatem*, it has, nevertheless, certain advantages.

Dr. E. Gruening, of New York, volunteered a paper on Wickersheimer's preservative fluid for animal substances.

The Prussian Government, a few months ago, bought and published the following formula: To 3,000 parts of boiling water put 100 parts of alum, 25 parts of common salt, 12 parts of saltpetre, 60 parts of carb. of potash, 10 parts of arsenious acid. Cool and filter, and add to ten parts of this solution, 4 parts of glycerine, and 1 part of methylic alcohol.

In the *Centralblatt f. die med. Wissenschaften*, for January, 1880, Dr. Boersicke states that the formula published by the Prussian Government contains two errors. B. obtained a different formula directly from Wickersheimer, in which, instead of ten parts of arsenious acid and 1 part of methylic alcohol, there should be 20 parts of the acid and 4 parts of methylic alcohol. Dr. G. presented specimens of both mixtures as prepared by different chemists. The Government formula is slightly opalescent, while

that of Boersicke is perfectly clear. The first preserves the refractive media of the eye, while the second does not.

A small, soft eye, which had lain three months in the Government fluid, shows the same depth of anterior chamber, a clear cornea, and an unchanged blue iris. The glioma retinae, for which the eye was removed, can still be diagnosed by the naked eye. An albinotic rabbit's eye having lain in the same formula the same length of time, shows the media clear, and gives the pink reflex. With the Boersicke mixture, preservation is less perfect; the lens becomes opaque in a few hours, and the cornea dim after a few days, as if it had been placed in absolute alcohol.

Cancer of the Female Generative Organs.

PROF. JOHN CLAY, Obstetric Surgeon to the Queen's Hospital, Birmingham, writes to the London *Lancet*, a communication which is of the "utmost importance—if true." Prof. Clay became convinced that a remedy for cancer must be one to be administered internally, and that it must be of such a nature as not to interfere with the functions of the special organs, or otherwise to injuriously affect the nutrition of the body, and, at the same time, be capable of being administered for a length of time sufficient to effect the removal of the disorder. He tested a large number of substances which might be capable of curing or arresting the disease, and finally, after a careful study of the pathology of cancer and the effects of certain carbo-hydrates administered internally, came to the conclusion that a remedy for cancer might be found among them. A list of the apparently most eligible of this class of bodies was made and their therapeutic properties studied; it was obvious that most of them were unsuitable for this purpose on account of their known specific properties as well as of exciting a special action upon certain structures and organs. Besides, their administration could not be expected to be sustained for any sufficient length of time, even if they were likely to act on the morbid growth. Circumstances, however (which he does not explain), led him to think differently of the Chian turpentine, and he determined to give it a trial on

the first opportunity. The first case he relates as follows:

"A woman came to the hospital as an out patient, aged fifty-two. She was suffering from scirrhus cancer of the cervix and body of the uterus. Hemorrhage was excessive, pain of the back and abdomen agonizing, and cancerous cachexia well marked. The patient evidently had not a long time to live. The uterus was so extensively destroyed by the cancerous ulceration that its cavity readily admitted three fingers. In such a case it appeared to be justifiable to attempt to relieve the sufferings of the patient, even if the remedy should produce unfavorable symptoms, or should prove of no avail. I therefore prescribed Chian turpentine, six grains; flowers of sulphur, four grains, to be made into two pills, to be taken every four hours. No opiates were prescribed or lotion used. No change was made in her diet or occupation. On the fourth day after taking the medicine the patient reported herself greatly relieved from pain and was in better spirits, but she complained of a large amount of discharge. It was feared that she referred to a discharge of a sanguineous nature. On examination, however, the vagina was found to be filled with a dirty white secretion, so tenacious as to be capable of being pulled out ropelike, and this, although she had syringed herself three hours previously. The os was quite contracted and would now scarcely admit the finger, and the surrounding swelling or cancerous infiltration of the cervix was much reduced. On the twelfth day the thick tenacious secretion had almost disappeared, and was succeeded by a somewhat copious serous fluid. The os was not so firmly contracted, but would only admit the finger. The patient's general health was improved and the medicine well tolerated. Sixth week: I ordered her a quinine mixture in conjunction with the turpentine, but sickness supervened, which ceased on omitting the quinine. Twelfth week: My notes are—the parts feel ragged and uneven, and do not bleed on simply touching them. The speculum shows several cicatricial spots. The turpentine has been taken regularly during the day for twelve weeks every four hours, during which time she has been almost free from pain and has had no hemorrhage; no glandular enlargement; general health improved. Walks easily to the hospital, being about a mile distant. As the patient did not come again to the hospital, her address was obtained, and it

was ascertained that she had left her residence. Being a widow, she could not afford to keep her house, and she went to reside with her married daughter in a northern town, but left no address. The case showed that the medicine was one of great power in cancer of the uterus, and it is to be regretted that an opportunity was not offered for fully carrying out the treatment."

The second case was one similar in character, the patient being thirty-one years old. Prof. Clay concludes the account of it with the remark: "The turpentine acted upon the growth with great vigor, literally melting it away in the brief period of four or five weeks."

The third case was one of epithelial cancer of the os, cervix, and the body of the uterus, in a woman aged fifty-two years. The mass was larger than a cricket ball, almost filling the vagina, which was not involved. She had had repeated hemorrhages, much pain, and the cancerous cachexia was well marked. As an experiment, one-sixth grain ammoniated copper was added to each dose of the turpentine and sulphur. In two weeks improvement was manifest. Sixth week: The surface of the tumor was at the level of the os uteri, and seems to consist of a mass of blood-vessels which bled moderately after examination. The copper caused disturbance of the stomach and bowels, and had to be discontinued. In nineteen weeks she was fairly convalescent. The growth had almost disappeared and the parts beyond the os uteri, although somewhat hypertrophied, were yet almost normal to the touch.

The fourth case was that of a woman aged thirty-two years. There was a cancerous mass of the posterior parts of the os and cervix, of the size of a goose egg. The turpentine mixture was given her three times daily, and by the sixteenth day the growth had almost disappeared. The same condition of the vessels was observed as in the preceding case. In the ninth week the medicine seemed to occasion some disturbance and was discontinued, five-grain doses of iodide of calcium being substituted. After a fortnight, the patient not feeling so well, the former treatment was resumed. She very rapidly improved and is now convalescent.

The "mixture" referred to is made thus: An ounce of Chian turpentine is dissolved in two ounces of pure (anæsthetic) sulphuric ether; the solution takes place at

once. This forms the "solution of Chian turpentine." Half an ounce of this mixed with four ounces of solution of tragacanth, one ounce of syrup, forty grains flowers of sulphur and water to sixteen ounces, to form an emulsion. Dose, one ounce three times daily.

"Other cases are under treatment, both in the hospital and privately, all showing similar effects. The remedy is now being tried in cancer of other organs, and apparently with good results. One of the most interesting, perhaps, is a case of scirrhus of the breast, which has been under observation for some weeks. Among the other cases are cancer of the vulva, stomach and abdomen, in which very remarkable benefit has been already produced."

Oil of turpentine, Venice and Strasbourg turpentines, produce no such beneficial effects. The maximum dose of the Chian turpentine which can be safely and continuously given is twenty-five grains daily. It is advisable to discontinue the remedy for a few days after ten or twelve weeks' constant administration, and then to resume it as before. He has always given sulphur with it, but is doubtful about there being much benefit from the combination. Other drugs given with it seem not to add to the beneficial results, and often seem harmful. As to its mode of action, he says:

"The turpentine appears to act upon the periphery of the growth with great vigor, causing the speedy disappearance of what is usually termed the cancerous infiltration, and thereby arresting the further development of the tumor. It produces equally efficient results on the whole mass, seemingly destroying its vitality, but more slowly. It appears to dissolve the cancer cells, leaving the vessels to become subsequently atrophied, and the firmer structures to gradually gain a comparatively normal condition."

Again, "judging by my experience, it is no figurative expression to say that it acts as a direct poison upon the growth, probably causing its ultimate death."

In the early stages of cancer, he thinks that an undoubted cure may take place speedily under its use, and that a recurrence of the disease need not be feared.

We condense the following account of Chian or Cyprian turpentine (*Terebinthina Chia*) from Flückiger and Hanbury's *Pharmacographia*, 2d ed. 1879, pp. 165, 166 and 167. This terebinth was known to the ancients, it being mentioned in the Old Testament and by Theophrastus and Dioscorides.

It is the substance to which the name turpentine was originally given. The product is the resinous juice derived from the bark of *Pistacia terebinthus*, L. That found in commerce is collected in the island of Scio. When Tournefort visited Scio in 1701, the island was said to produce scarcely 300 okes or ocche (one occa = 2.82 lb avord.); a century later Olivier stated that the turpentine was becoming very scarce, 200 ocche only, or even less, being the annual yield. It was then carefully collected by means of little earthen vessels tied to the incised stems.

Chian turpentine as found in commerce and believed to be genuine, is a soft solid, becoming brittle by exposure to the air; viewed in mass it appears opaque and of a dull brown hue. If pressed while warm between two slips of glass, it is seen to be transparent, of a yellowish brown, and much contaminated by various impurities in a state of fine division. It has an agreeable, mild terebinthinous odor and very little taste. The authors found that an authentic specimen contained $14\frac{1}{2}$ per cent. of an essential oil. When this had been treated with metallic sodium and again distilled, an oil was obtained that had an agreeable odor, resembling that of a mixture of cajeput, mace and camphor, and possessing the same chemical composition as ordinary oil of turpentine.

"Uses:—Chian turpentine appears to have exactly the properties of the pinic turpentine; in British medicine it is almost obsolete. In Greece it is sometimes added to wine or used to flavor cordials, in the same manner as turpentine of the pine, or mastich."

We presume that Prof. Clay's report will initiate a new "medical fashion," and in order that the remedy shall have a fair test we give space to these particulars regarding the genuine article that practitioners may be able to guard against fraudulent impositions.—*St. Louis Clinical Record*.

The Electro-Therapeutics of Diseases of the Skin.

BY EDWARD C. MANN, M. D.

VERY little attention has as yet been paid to the treatment of skin diseases by electricity, although, from the constitutional source and central origin of many of them, the best results are to be hoped for. The relation that exists between the sympathetic and vaso-motor nerves and many cutaneous lesions is accepted by many dermatologists. The numerous experiments in which electricity and other remedial agents applied to the central nervous system have been efficacious, without the application of any local curative agent, have clearly proved the existence of such a relation. Neumann gives it as his opinion that "there is no doubt but that a large proportion of cutaneous lesions depends upon disorders of the vaso-motor nerves, which cause certain derangements of the circulation in the arteries, veins and cutaneous glands." We find that diseases of certain organs give rise to, or are accompanied by, certain cutaneous lesions. Thus in dis-

eases of the stomach, especially disturbances of digestion, we often see eczema and urticaria. Upon the application of electricity in such cases we have invariably found very marked tenderness of the solar plexus, and in proportion as the dyspepsia was relieved the abnormal sensitiveness to the electrical current has diminished, and the general nutrition has improved, owing to the action of the electricity on the sympathetic nerve. In renal and uterine disorders we often see pruritus, eczema and urticaria, and the application of both the galvanic and faradic currents to the sympathetic nerve, acting on the solar and hypogastric plexuses, has been found in some cases to relieve the eruption, although in some of these cases the relief was but temporary, as the cutaneous lesion probably depended upon an incurable condition of the kidneys and uterus. In the cutaneous lesions which are the sequelæ of scarlatina, measles, etc., acting on the vasomotor nerves, the use of electricity which shall affect these nerves is certainly a mode of treatment from which we may reasonably expect good results.

In the cases that have presented themselves to our notice the most prominent symptoms relating to the nervous system have been "neurasthenia," or nervous exhaustion, anæmia, hysteria, neuralgia and insomnia; and in proportion as the nervous symptoms yielded to treatment the cutaneous lesions have disappeared. In none of the diseases of the skin do we find a more intimate relation existing between the nervous system and the cutaneous lesion than in herpes. Barensprung thinks the origin of zoster to be an inflammation of the sympathetic fiber of the small spinal ganglion, which inflammation is communicated to the skin, and explains the neuralgia so frequently accompanying it by the transmission of the irritation and reflex action from the ganglion upon the posterior root. It has also been observed in some cases that inflammation of the entire nerve tract had existed. In the treatment of this disease, central galvanization and galvanization of the sympathetic may open to the profession a means of cure which will, perhaps, be of some service. For the benefit of those who are not acquainted with the practical application of electricity we may explain that "central galvanization" signifies the most direct method of influencing the great nervous centers by the following method: Apply the negative pole to the supe-

rior part of the epigastric region so as to affect directly the solar plexus, and the positive pole to the crown of the head or cranial center, which is a very important point for affecting the brain; and also over the sixth and seventh cervical vertebræ, or cilio-spinal center, at which point, by moving the electrode on either side of the spine, we affect the cervical sympathetic nerve, and also the pneumogastric, phrenic and laryngeal nerves and brachial plexuses. This point is the most important region of the body in the application of electricity, as we can influence more important nerve tracts than at any other place. In conclusion, the positive electrode may be passed down the entire length of the spine, from the first cervical to the second lumbar vertebra or cauda equina, at which latter point the sciatic nerves and their branches are strongly affected. We desire in this connection to express our firm belief in the efficacy of central galvanization in the treatment of diseases of the nervous system, believing that in no other way can we exert so important an alterative action upon the great nervous centers with such uniformly good results. We would by no means, however, depreciate the beneficial results accruing from the use of proper medication, but are in favor of a combination of the two forms of treatment. The late Prof. Felix von Niemeyer, in speaking of the difference between the constant and the induced current, says: "I am fully convinced that the introduction of the former into practice is one of the most valuable advances of modern times, and that *in the constant current we have a means more powerful than any other, of modifying the nutritive conditions of parts that are deeply situated.*"

But asking the indulgence of our readers for this digression, we return to the subject at hand. In many cases of prurigo we have traced the cause to the central nervous system, and Cazenave and Romberg both consider it a neurotic disease. In one case that came under our notice, that was relieved by the use of central galvanization, there was intense itching, but no complaint was made of any neuralgic pains, which was contrary to the rule laid down by German authorities, that if the prurigo is neurotic in origin, neuralgia and not itching will be present. The case referred to followed a severe attack of scarlatina. In another case, which came on after long-continued mental excitement, both slight neuralgic pains,

wandering in character, and severe itching existed. While our knowledge of the therapeutic uses of central galvanization is still in its infancy, extensive observations have been made, and cases have been reported by eminent authority upon skin diseases in which local galvanization has accomplished the best results in many cutaneous lesions. Conspicuous among these is the cure by local galvanization, by Dr. Henry G. Piffard, of a case of scleroderma, which is the more interesting and valuable as there are but about forty cases of this disease on record, and but very few other reports of cure. Neumann reports an interesting case of scleroderma in the clinic of Dr. F. Fieber which resisted all ordinary local treatment, and was cured at length by local galvanization. We treated a case of Elephantiasis Arabum, syn. Bucnemia Tropica, Barbadoes leg, etc., for eight months by local galvanization with very marked benefit to the patient. As this disease is but rarely met with in this country, a passing notice of its pathology may not be uninteresting. According to Neumann, the disease "consists essentially of an increase in substance of the skin and subcutaneous cellular tissue, whereby the circumference of the affected portion of the body is very considerably increased."

Tilbury Fox considers it a hypertrophy of the cellular tissues caused by the effusion of a blastema in connection with a large number of molecules, granules, free nuclei and nucleated cells. The veins are distended and the lymphics are obliterated. The internal organs are often in a state of fatty degeneration. The primary seat of the disease he considers to be the blood, while locally the lymphatics are primarily affected.

The case of which we speak is that of an Englishman, Mr. P——, 50 years of age; family history good; occupation, office of a distillery. About two years ago he went to his place of business perfectly well, as he thought, and upon his arrival home at night he found that he could not remove the stocking of the left leg, owing to great swelling, which was œdematous in nature. A small point, which he described to have looked like a small blister, then appeared, and from this point exuded a watery serum, which discharge increased in quantity as the cellular tissue was infiltrated and as the leg increased in size. The leg continued to increase in size until July 1, 1872, at which time we first saw the patient. At that time

the circumference of the calf of the left leg measured twenty-five inches. The right leg had also become affected and was also hypertrophied, although to a much less extent than the other. The left leg presented the appearance of an immense corrugated scab, not a trace of healthy epidermis being visible as far as the knee. Above that point the tissue was much hypertrophied, but normal in appearance, with the exception of a diffused redness. On the anterior aspect of the left foot was an ulcer of considerable size which was very painful. The right leg was the seat of an erythematous redness with some exfoliation of the epidermis. There was an ulcer on the right foot also, near the ankle, which gave rise to the most excruciating pain, especially at night, depriving the patient of rest. No external applications made heretofore had afforded any relief, either to the hypertrophy or the pain of the ulcers. On the 12th of July, 1872, the following application was made:

A copper plate, to which was attached the negative pole of the battery, was put under the right foot, which was thoroughly moistened with warm water, and the weight of the body as far as practicable rested on this foot. The positive pole attached to a large sponge was then rubbed over the entire surface of the thigh and leg, special attention being given to the course of the nerves. Although a strong current was used it was not felt by the patient until the electrode was placed upon the comparatively healthy tissues above the knee, when it was felt strongly. This application was continued about an hour. The patient was not seen again until the 16th of September, 1872. The large scab or thickened epidermis had now begun to peel off in large scales, leaving the normal tissue visible beneath. The patient could also move his leg, which he could not do before the application of electricity. The leg now measured round the calf $21\frac{1}{2}$ inches, being a reduction of three inches and a half in size in a month's time. The hypertrophy of the entire limb was found to have decreased in like proportion. The size of the ulcer remained the same. A second application was now made (September 16), a current from sixteen cells of the battery being applied to both limbs in the same manner as before, with the exception of making a strong application by a sponge electrode to the surfaces of both the ulcers, and lasting about ten minutes for each one,

the application giving considerable pain. The length of seance as before was an hour. September 20, reports that he has had no pain since the morning of the 13th inst., which is a great relief, as he has hardly had a good night's rest before for a year. The scab is exfoliating and the leg decreasing in size. October 18, the treatment by local galvanization has been continued since September with the most gratifying results, the applications being made twice a week and lasting for about three-quarters of an hour. The diameter of the calf of the left leg is reduced to seventeen inches. The ulcer upon the right foot has filled up with healthy granulations and is nearly cured. The ulcer on the other foot has also improved very much, the effect of the galvanic current having been to stop the discharge of an offensive sanious pus. The fungous, bleeding granulations which rose above the surface have disappeared, and small, healthy granulations are beginning to appear. Appetite good, bowels regular. Temperature 98° and pulse 70. December 23, has had no application for a month until to-day. Application of fifteen minutes in length to each leg. Ten days ago the pains in the right foot, which had been relieved so much a month previous, but which had since troubled him, ceased entirely. Both ulcers in good healthy condition, the one on the right foot being nearly well. The diameter of the left leg around the calf is a trifle less than seventeen inches. Up to the present date (February) the condition of the patient remains about the same. This is the only case of the kind that has been treated by local galvanization, and, so far as the knowledge of the writer extends, the only case that has been markedly relieved by any treatment. The patient is a very fleshy man, and he thinks the normal diameter of his calf to be sixteen inches or thereabouts.

That eczema may be ranked in many cases with the neuroses, and cured by central galvanization, is, we think, demonstrated.—*Independent Practitioner.*

The Use of Nitrous Oxide Gas in Certain Diseases of the Nervous System.

At the last meeting of the New York County Medical Society, April 26th, a paper on the above subject, written by Dr. Allan McLane Hamilton, was read by the secretary

in Dr. Hamilton's absence. The author first spoke of the physiological effects of the agent, and gave a *resume* of the history of its therapeutical use, referring particularly to the experiments of Mitchell and Ziegler. The latter found it of service, not only as a tonic and diuretic, but also as a stimulant in poisoning by such agents as carbonic acid gas, as well as in other depressed conditions of the system.

For the introduction into this country of its scientific medicinal use, he said, the profession was indebted to Dr. J. Ellis Blake, of New York, who had made much diligent research in the subject, and who had sufficiently demonstrated that in nitrous oxide gas an important addition was made to the *materia medica*.

Personally, Dr. Hamilton had employed it with a very encouraging degree of success in many cases of depression of spirits, insomnia, neuralgia, melancholia, and hypochondriasis, and he regarded it as a nervous stimulant of great value. It was found to increase the activity of the heart and the arterial tension; while if its administration were carried sufficiently far it would, of course, produce its well-known effect of temporary unconsciousness, with anæsthesia. He had obtained it in the liquid form from the Messrs. Johnston, of New York, and the purity of the article furnished by them was entirely to be depended upon. As a rule, he made use of two gallons of the gas to one gallon of air. The writer then went on to speak further of the effects of its administration upon the system. The temperature, he found, was not very much disturbed by it, though one of the good results usually produced by it was an increased warmth of the extremities, and its general effects were somewhat similar to those of oxygen, as these were demonstrated by the investigations of Dr. A. H. Smith. On account of the exhilaration of spirits caused by it, it was of great service in many nervous and mental disorders, and under its use in his hands taciturn and melancholic patients had often become contented and cheerful. In melancholia dependent on disturbance of the menstrual function, as well as in various forms of hypochondriasis, it had proved very useful, and mention was made of two subjects of melancholia in the insane asylum on Blackwell's Island, who had not eaten any food voluntarily for two weeks, but went to the table cheerfully and ate with alacrity after having had the nitrous oxide gas administered to them.

The susceptibility to its influence varied very greatly in different individuals, and Mitchell had found that in some instances no less than four gallons of the gas were required before any symptoms whatever were produced.

When there was any tendency to mania present, it should never be given, as it either proved negative in its results, or else aggravated the condition—the latter being more frequently the case; nor ought it to be used in any case where there is organic disease of the heart. It was also contraindicated whenever there was a plethoric state of the system, on account of its effect in increasing arterial tension. In anæmic conditions, on the other hand, it was frequently of the highest service. In a case of amenorrhœa (without appreciable disease of the uterus), accompanied by very severe headache, it had acted most happily; and in several cases of sick-headache it had not only successfully broken up the attack, but had also had the effect of preventing a return of the trouble. So in hemicrania, facial neuralgia, and sciatica, as well as in many cases of insomnia, it had also proved very useful. When given for the relief of the latter condition it had been found best to administer the gas in the middle of the day, instead of just before retiring. In cases of insomnia where there was cerebral hyperæmia, however, it was contraindicated, as would naturally be supposed from what had been previously stated of its effects. Those suffering from functional heart trouble and chlorotic young women were very apt to be much benefited by it; and the same was true of individuals who had used tobacco to excess. Finally, a very useful application of the gas was in the case of those addicted to the use of alcohol or opium, and who had been induced to give up their accustomed stimulus.

At the conclusion of the paper, Dr. Blake made some remarks, in the course of which he stated that he had been induced to make a series of experiments with nitrous oxide gas in consequence of the results from its use which a dentist of Memphis had reported three years ago. Before undertaking an investigation of the subject he had also obtained a report from the superintendent of an insane asylum in Connecticut of the results which had been observed from its use for fifteen months in that institution. The only claim for originality that he could make in the matter was perhaps in regard to the method of inhaling

the gas, which he believed to be a point of considerable importance. He had found that it was advisable that once in from three to five respirations the patient should be permitted to take a full inspiration of atmospheric air. In this way the gas was taken in smaller doses, and had the effect of a gentle stimulant, without producing intoxication at all. If in any case during the inhalation flushing of the face or any evidence of intoxication were observed, even a larger amount of air should be admitted. He ordinarily found that, administered in such a manner, one bag of gas was sufficient for a sitting.

The remedy he regarded as a diffusible stimulant and tonic, the employment of which was followed by no depressing reaction, and he thought its effects on the system were comparable to those of a sea-voyage or of a trip to the mountains. His experience with it had been entirely confined to the limited field of private practice, as the state of his health had not permitted him to carry his investigations further, and therefore he was much pleased to hear such a favorable report of the more extended use of the agent by Dr. Hamilton. Personally he had employed it with excellent results in cases of insomnia, melancholia, anorexia, and nervous exhaustion. Its good effects seemed to be entirely confined to anæmic and asthenic subjects, and he had never seen it prove of any service in the case of plethoric individuals.

When Dr. Blake had finished his remarks he exhibited and explained the latest and most approved form of portable apparatus for supplying the gas, as now manufactured by the Messrs. Johnston, after which there was some further discussion of the paper.

Later, a paper on the Use of Cerium Oxalate for the relief of cough was read by Dr. Hobart Cheesman.

Diphtheria and Sewer Gas.

THE influence of sewer gas in the production of diphtheria has not always received the attention it deserves; and it seems, therefore, important to chronicle well-authenticated cases which seem to have no other cause than the introduction of drain-air into the houses invaded by the disease. Two such cases have recently been recorded as occurring at Newquay, in Cornwall, by Dr. Ballard, of

the Local Government Board, whose caution as an etiologist is well known. It appears that a new tenant commenced one August to occupy a detached and almost new house, the water-closet of which was drained into a covered and unventilated cesspool in the garden. This house had been previously occupied for a short time by a family who had been quite free from illness while residing there. In one of the bedrooms there was an open rain-water cistern, having an overflow or waste-pipe which discharged itself into one of the drains connected with the cesspool. The only trap it had was a bell-trap on the top of the pipe, which, when subsequently examined, was found to be dry. From this pipe offensive smells had been noticed as proceeding for some time, and from the room they more or less pervaded the house. In the room where the cistern was situated one child slept alone; another child slept with a nurse in a different room. On January 2d the child who slept in the room containing the cistern was attacked with diphtheria and died. No one else in the house suffered. The other fatal case referred to occurred in a good house, which was occupied by a family of whom eight children with the mother slept in a large attic room, beneath the floor of which was a rain-water cistern. The waste-pipe of this cistern was trapped with a bell-trap, and it terminated in the soil-pipe of the water-closet. All the children who slept in this room had attacks of diphtheria of varying degrees of severity, and one of them died. On subsequent examination of the bell-trap, it was found to be dilapidated, dry and quite ineffective to prevent the rise of foul air from the waste-pipe and through the floor into the attic.—*British Medical Journal*.

On Some Appearances, probably of Parasites, in the Voluntary Muscles of Enteric Fever.

At a late meeting of the Pathological Society of London, Dr. Buchanan read, on behalf of Mr. W. H. Power, a paper on this subject. Mr. Power's attention was first called to it by the discovery of hæmatoid worms closely resembling trichinæ in a body of a boy who had died on board the training-ship Cornwall, of a disease supposed to be typhoid fever, that had affected many of the boys

in the ship. Investigation rendered it nearly certain that in all the cases the disease had been parasitic in its nature, rather than enteric. The parasites resembled trichinæ in size, but they were not encysted, and they were more transparent than trichinæ generally were. This might be due to the rapid course of the disease in this case, and to the fact that the examination was not made until two months after death. In order to follow up the matter, Mr. Power made examinations of the voluntary muscles in two cases of undoubted typhoid fever. The first case was a young man, a patient in St. Thomas' Hospital under the care of Dr. Cory, admitted for typhoid fever, who had died of perforation on the twenty-third day of the disease, the bowel being found *post mortem* to present well-marked typhoid ulceration. In the pectoral muscle were bodies resembling parasitic worms. They were very numerous, and when first seen were apparently living. In length and in breadth they were about one-fourth the size of the trichinæ spiralis, and there was an interior canal which appeared to be covered at one part by some internal tissue or organ. Similar bodies were found in the muscles of a boy who died in Greenwich Hospital from peritonitis, at an early stage of unquestionable typhoid fever. In neither case were all the muscles affected, the diaphragm being in both free from the wormlike bodies. Further examination led to the discovery of smaller bodies, possibly having some relation to the larger bodies, but much more numerous than the latter. They were, however, not easily seen, a very slight interference with the slide being sufficient to remove them from view. The larger parasite-like bodies were more numerous in portions of the muscles which had undergone decomposition; but this was not true of the smaller bodies. It was doubtful whether the increase in the number of the larger bodies was apparent only, or whether it depended upon actual growth or multiplication. The author of the papers did not profess to do more than record the observed facts, with a view to encouraging investigation on the part of other pathologists.—*British Medical Journal.*

MICROSCOPY.

Germ Theory Applied to Furuncle, Osteomyelitis and Puerperal Fever.

IN the April number of the *Courier* appeared an account of Pasteur's exceedingly interesting discoveries as to the nature of the disease known as the "Cholera of Fowls." He found in excrement of fowls affected with this disease, minute organisms comparable to the bacteria, which could be readily cultivated in chicken broth. A small drop of this infected broth injected under the skin of a healthy bird, one never affected with the disease, or given with the food, speedily excited all the symptoms of the "cholera," together with fatal results. A modified solution thus injected produced a local abscess, but no general symptoms, while the bird was manifestly *protected* against contracting the true cholera, as was proven by experiment. This discovery naturally has excited much interest; the results are analogous to those of vaccination as regards variola.

Pasteur, at a recent session of the French Academy of Medicine, May, 1880, reports having discovered in several common diseases, microscopic bodies in the fluids, to the presence of which may be ascribed the diseases themselves. The first is the furuncle. Pasteur examined pus taken from furuncles, and discovered a minute organism formed by two spherical specks united together.

In the pus of osteomyelitis he found a great quantity of organisms similar to those of the furuncular pus, which led him to state that the case of osteomyelitis examined might be regarded as an osseous furuncle.

A number of cases of puerperal fever examined afforded decided results. The lochial discharges contained quantities of microscopic organisms of various sorts. The blood harbored a body much like that found in the pus of furuncles, but still sufficiently distinct to be recognized. Pasteur gave this explanation of the cause of death in puerperal fever: The injuries of the uterus, after delivery, give rise to a purulent discharge which affords a virus for germs; these subsequently penetrate into the organism by the lymphatics. Evidently the antiseptic method of

treatment is naturally indicated. While the carbolic acid is very useful, Pasteur prefers the use of concentrated solutions of boracic acid; this agent does not irritate mucous membranes, which is a most valuable property. Pasteur proposes the application of compresses, impregnated with boracic acid, to the genitals of recently delivered women.

It may be here mentioned that boracic acid or sodium borate, the common borax, which is an invaluable application to the suppurating mucous membrane of the middle ear, is also indicated because of its antiseptic and bland nature, in cases of offensive discharge from the nasal passages. Undoubtedly in this drug we have a very valuable antiseptic, which, in many cases, is preferable to carbolic acid, since it is eminently non-irritating; hence it can be freely used in the form of powder, and as such may well be introduced into the diseased cavity of the vagina or uterus by insufflation, a method much to be preferred in the treatment of aural discharges.

The Tolles-Blackham and Beck's Microscope Stands.

IN your last issue is an illustration of "The Tolles-Blackham Microscope Stand," and remarks made by "A Fellow of the Royal Microscopical Society," which infer that our new stand is a copy of it. During extensive travels amid scientific men in the United States I have never seen one of these stands, and I was perfectly ignorant of its existence. I never claimed as a novelty the disc carrying the illuminating apparatus; this was virtually designed and carried out by Mr. Grubb in 1854. What I do claim as a novelty is, that this disc is *not* fixed to the main limb; and this, in spite of the opinion of your correspondent, I think a great improvement.

In all the plans hitherto contrived, if the manipulator wishes to raise or lower the beam of light under oblique illumination, he moves this beam out of the optical axis of the instrument to either one side or the other; whereas by my plan the beam is raised and lowered *in the axis of the instrument*.

It is suggested that this result is not of practical utility. Any one who will work with oblique light on the one system or the other, will at once perceive the advantage

of my plan. Instead of the character of the illuminator being changed by the increased or decreased proportion from the one side or the other, it remains perfectly the same.

The only value of these contrivances for the use of oblique light rests in their perfect accuracy; and anything that leads thereto is, I imagine, a step in advance.

If there is any advantage in accuracy, and I hold that there is, the Grubb, the Zentmayer and the Tolles-Blackham plans are only accurate for viewing an object on a slide of a definite thickness; any variation throws them out at once, whereas, by my plan, the rotation can readily be made exact for an object mounted on glass of any thickness.—*Joseph Beck, in English Mechanic.*

The Binocular Microscope.

FROM their replies, I think "F.R.M.S." and Edwin Holmes have misunderstood my query on this subject. I am well aware that the Wenham binocular is not suited to high powers, nor to objectives exceeding 40° , for reasons well given in "Carpenter," p. 71. But my query did not refer to the binocular when used as such, but to its employment as a monocular, with the prism drawn out of the field. Then it appears to me that the stops placed above and below the prism-box, which are not removed with the prism, must cut off the marginal pencils from high powers, and cause loss of light as well as of resolving power. As nearly all the first-class stands are now made with double barrels, this seems to me an important point, and one which I have never seen attention drawn to. If my idea is correct, it would involve general observers providing themselves with two instruments, one binocular for low powers and another monocular for the higher objectives.

I can not agree with Edwin Holmes as to the inutility of the cover adjustment for immersion lenses. Though, to a certain extent, the water film acts as a self-acting adjustment, yet, to obtain the *best* performance, I find the screw collar quite as necessary as in a dry objective. By the way, what a great improvement in construction the plan of moving the inner lenses instead of the front is. The range of adjustment is less—only one-third of a turn,

and the collar also works very much smoother than the old plan, which was stiff and troublesome, sometimes leading to its neglect altogether.—*Treadle, in English Mechanic.*

GLEANINGS.

MEDICINE MEN IN COUNCIL.—The following is an editorial from the New York *Herald* of June 3rd:

About fifteen hundred doctors are assembled in this city as a sort of professional congress, for precisely what important purpose the congress itself would, perhaps, be troubled to tell. But it is an age when the gregarious instinct of humanity makes itself felt on the lines of some common pursuit or taste, and lawyers, bankers, railroad men, peace societies and parsons get together for an annual powwow, and why not the doctors? There are some reasons, perhaps, why the doctors should not be counted in such a category. In the first place, while all these practitioners from the rural districts are away from home a great many people will take advantage of the opportunity to get well of their innumerable maladies, and the doctors will be great losers thereby. But a more substantial reason is that the doctors, as men trained in more severely rational methods of thought, should not follow the example of mere anniversary makers, who come out once a year to air their vocabularies; nor yet the example of railroad men and bankers, who get together to consult how they may more effectively prey upon the public. As the doctor's impulse in life is not primarily toward the accumulation of wealth, and is certainly toward the exposure and correction of vain theory, he can not be part of an annual congress for either of the reasons that commonly contribute to the making of such rookeries, and the wonder is why he takes part at all in a vain show. There are points of view, however, from which this gathering of medical men may be instructive to the people, if not useful to the doctors. From what other pursuit of great importance to the people could there be gathered together from all parts of a country like ours a representation of fifteen hundred men so largely endowed with sound culture and rare intelligence, and so little endowed with that wealth which is popularly

regarded as the substantial fruit of all labor? Rich doctors are rarities—though we presume that nearly all doctors who deserve to succeed make money enough to live comfortably. But a rich man is not a rarity in any other pursuit that requires as much knowledge or as high an order of intelligence as is required to make a good doctor. On the contrary, in all pursuits that require that intelligence, and in many that require far less, everybody gets rich, in this country certainly. But this is the most striking phenomenon presented by this profession: that it is a body of men of far higher than ordinary intelligence, men of great culture and industry, who labor incessantly from boyhood to old age, and, taking life genially and easily, are contented with an infinitely less substantial reward than is necessary to satisfy any other class of men. It is as if a medical education lifted a man into serener regions of life than those in which is waged the savage daily strife for lucre, and if it has that effect in fact it would be a good thing if medicine could be studied a great deal more than it is.

PATHOLOGY OF URTICARIA.—M. Vidal (*Lancet*, April 3, 1880; from *L'Union Medicale*) has published the results of the examination of a "wheal" excised during life from a patient suffering from urticaria. The superficial and deep net-work of vessels was found dilated and gorged with blood, without any alteration of their walls being discoverable. Both the blood-vessels and the lymphatic vessels were surrounded by leucocytes, which were also scattered through the whole thickness of the cutis, and massed together at certain points. A few were to be seen between the cells in the deepest layer of the epidermis. Here this structure was normal, but another piece of skin was excised from a wheal on which the epidermis had been raised in a vesicle. This vesicle contained a serous, albuminous liquid, and the debris of epithelial cells. In the middle layer the cells were vesicular, and those of the deeper layer granular. Leucocytes migrating among the cells in the deep layer of the epidermis were more numerous than in the other case.

M. Vidal remarks that from this pathological alteration we can see the nature of the morbid process. In a pre-disposed subject some internal or local cause excites the action of the vaso-motor nerves; this excitation is soon

followed by contraction of the cutaneous capillaries, and this by their paresis and congestion, with retardation of the circulation. Hence, at the center of the altered part there is migration of leucocytes and serous effusion, the acute œdema causing the pale prominence. A similar lesion—a sort of acute œdema—may be produced artificially by injecting into the skin a few drops of water. What becomes of the leucocytes which have wandered out? Are they resorbed, or are they carried toward the epidermic layer, as Biesiadecki suggests? It will be observed that this theory ignores any participation of the muscular fibers of the skin, which has been assumed to account for the limitation of the œdema and consequent prominence of the wheal—a limitation which M. Vidal leaves unexplained.

CHOLERA MORBUS.—In cholera morbus Bartholow recommends the following:

R.	Chloral hydrate,	℥iij.	
	Morph. sulph.,	gr. iv.	
	Aqua laurocerasi,	℥i.	Misce.

Sig. From fifteen to thirty minims hypodermically. This injection produces considerable burning pain, and sometimes an indurated lump, but is rarely, if ever, followed by suppuration.

BOOK NOTICES.

THE PRACTITIONER'S REFERENCE BOOK. By Richard J. Dunglison, A. M., M. D., editor of Dunglison's Medical Dictionary, etc. Second edition, revised and enlarged. 8vo. Pp. 476. Philadelphia: Lindsay & Blakiston. Cincinnati: R. Clarke & Co. Price, \$3.50.

This work contains a large amount of valuable information to the physician. A very large amount contained in it can be found nowhere else; while very much is scattered through many works. It starts out with giving the "Hippocratic Oath," then follows general information for the practitioner in regard to weights and measures, which is extensive; therapeutical and practical hints, including rules of medical etiquette which are not embodied in the Code of Ethics; what the practitioner must learn of the

patient, doses of medicines for adults and children, modern treatment of disease, baths and how to medicate them, celebrated prescriptions or remedies, selected prescriptions from practitioners' case-books, doses of all medicines; diagnostic tables of principal fevers, of uterine diseases, of acute pulmonary diseases, etc.; obstetric memoranda, diometers of the pelvis, rules for clinical examination of urine; examination of sediments, poisons, their nature and treatment and classification; directions for restoring the apparently drowned, disinfectants and their practical application, principles of disinfection—how to use them, directions for preventing the spread of infectious diseases, how to use the hypodermic syringe, the galvanic battery in medicine and surgery. There are full dietetic rules and precepts. Also full directions for conducting a *post-mortem* examination. Of course we can give but a tithe of the information contained in a work of the kind. There is no physician who will not find it worth many times its price as a ready consulting work upon almost every subject concerning which he might want information that has slipped his mind.

This is the second edition. The first edition was published in 1877, showing that the work has had a ready sale. Very much new matter has been added to the second edition.

TRANSACTIONS OF THE AMERICAN GYNECOLOGICAL SOCIETY.
Vol. IV., for the year 1879. 8vo. Pp. 506. Boston:
Houghton, Mifflin & Co., Riverside Press, Cambridge.

Certainly no American gynecologist would think of doing without such a work as this. We would consider the library of any physician, who is interested in the diseases of women, as very deficient that does not contain this very valuable volume. And what physician is not interested in the affections of women, since they form a large part of the diseases for which he is called upon to prescribe?

The work contains the minutes of the proceedings and the papers read of the fourth annual meeting, held in the city of Baltimore, September 17, 18, 19, 1879, Dr. L. Gaillard Thomas, of New York, President. The next annual meeting will be held in Cincinnati, September 1, 2, 3.

We have not the space to give the titles of the many

valuable papers read by distinguished fellows of the Society. We will mention, however, that in them are treated not a few of the most important subjects of gynecology—the most interesting and important of the diseases of women, the latest discoveries in pathology, and the newest therapeutical means likely to be of benefit. Some of the papers are finely illustrated by engravings. A few of the readers were T. Spencer Wells, Wm. Goodell, Wm. H. Byford, T. Gaillard Thomas, Paul F. Munde, Robert Battey, Isaac E. Taylor, Nathan Bozeman, Wm. T. Lusk.

A feature in the work that will be of interest to some hundred of physicians in the West, both young and old—for he taught medicine to two or three generations—is an excellent heliotype portrait of the late venerable Dr. M. B. Wright, of Cincinnati, with a brief biographical sketch by Dr. Parvin, of Indianapolis. The picture is a very accurate likeness of the deceased, and will be surely prized by all of his friends living.

TREATISE ON THERAPEUTICS: Translated by D. F. Lincoln, M. D., from the French of A. Trousseau, Professor of Therapeutics in the Faculty of Medicine of Paris, etc., etc., and H. Pidoux, member of the Academy of Medicine, etc., etc. Ninth edition, revised and enlarged, with the assistance of Constantine Paul, Professeur Agregé in the Faculty of Medicine of Paris, etc. In two octavo volumes of over 300 pages each. New York: William Wood & Co.

This work belongs to the series of "Wood's Library of Medical Works" for 1880. In our last issue we gave the particulars of the annual publication of a series of medical works by the eminent publishing house of Wm. Wood & Co., of New York, and it is not necessary for us now to repeat them. Suffice it to say that their enterprise will form a new era in the publication of medical literature. If it receives the encouragement it should, physicians will be able to procure libraries at about a third of the cost that it has heretofore required. The series of twelve volumes, which they have undertaken to publish each year, could not certainly be bought at old prices for much less than forty or fifty dollars.

The work before us on Therapeutics is fully up to the standard of the other works of the series we have before

noticed. Having passed through nine editions is certainly a guarantee of its popularity; and if we come to examine it closely we will find that its popularity is founded upon its value—its genuine merits.

On page 78 are described the virtues of walnut leaves in certain glandular affections, which we will copy, having no doubt our readers will be interested:

Jurine, of Geneva, seems to have been one of the first to use the ptisan of walnut leaves for lymphatic engorgements. Dr. Prosson, of Chambery, recalling the successes of the Professor, gave it to a beggar with old scrofulous ulcers, and by the influence of this remedy alone, in ptisans, lotions and cataplasms, obtained quite a rapid cure; since when he has continued to employ it with advantage. Dr. Negrier, of Angus, has tried the walnut leaves on a very large scale, and has published several interesting memoirs upon the subject. Perhaps he was wrong in ascribing to this remedy an almost specific virtue. But, allowing for a little exaggeration, we must admit our debt to him for having pointed out the value in the various forms of scrofula. The effects by it used internally are at first general; the influence upon local symptoms appears later. The action is generally slow, requiring generally from twenty to fifty days, according to the nature of the symptoms and the constitution of the subject, before the first effects become sensible.

The work is one of the very best text-books for students with which we are acquainted.

LESSONS IN GYNECOLOGY. By William Goodell, A. M., M. D., Professor of Clinical Gynecology in the University of Pennsylvania, etc. With 92 illustrations. 8vo. Pp. 454. Philadelphia: D. G. Brinton. Cincinnati: R. Clarke & Co. Price, \$4.00.

In less than six months from the time the first edition of this work was published a second edition has been required. Such popularity of a medical work is seldom ever heard of. A new novel by a noted writer may have an edition exhausted in a few weeks, but medical books do not often meet with such a ready sale.

Probably a principal cause of the popularity of the work is the good sense displayed throughout it by the author. In the discussion of the various subjects of his specialty he writes as if he had studied them all thoroughly and had a full understanding of them. Besides, the style is interesting, and the reader has no difficulty in following along and fully comprehending what is presented, and, at the same time, the reader's common sense indorses what is taught—he feels that the author's conclusions are correct, the results of a sound judgment, and that he has not been influenced by prejudice or precon-

ceived notions. We consider that there is no profession in which good common sense has such an opportunity of displaying itself and doing good as in the profession of medicine; and the most fertile field for a fool to do mischief in, while believing that he is pursuing a most brilliant career, is in the gynecological department of medicine.

We have no doubt but that the popularity of the work will continue, for Prof. Goodell will undoubtedly continue to keep it abreast of the progress of the day.

THE MANAGEMENT OF CHILDREN IN SICKNESS AND IN HEALTH.
A Book for Mothers. By Amie M. Hale, M. D. 18mo.
Pp. 110. Philadelphia: Presley Blakiston. Cincinnati:
R. Clarke & Co. Price 50 cents.

Although this little work has been prepared by Miss Amie M. Hale, M. D., more for the purpose of educating mothers in the management of their offspring than of affording instruction to physicians, yet we feel sure that there is scarcely a physician who would not be benefited by its perusal. Miss Dr. Hale, who is a regular physician, has given infant management much observation and reflection, and consequently has been able to prepare a work that should be in the hands of every mother throughout the land; and as she constantly advises seeking the aid of an intelligent physician in all cases of illness, and discountenances adopting the prescriptions of sympathizing lady friends, as calculated to do much harm, physicians should aid its circulation.

EDITORIAL.

American Medical Association.

THIS body held its thirty-first annual meeting this year in the city of New York, commencing June 1st, and continuing four days. The meeting of the first day was called to order at 11 A. M., by the President, Lewis A. Sayre, M. D., of New York. The address of welcome was delivered by Dr. L. Gaillard Thomas, which was followed by the address of the President. Dr. Sayre, in his address, made brief mention of what the world owes to American physi-

cians and surgeons. First, he said, was Anesthesia, the greatest boon ever conferred upon suffering humanity. "The mind becomes overawed at the magnitude of the blessing, and even imagination fails to comprehend fully its benefits."

There was Ovariectomy, which has done probably as much toward saving life as any other surgical discovery in the nineteenth century--Dr. Ephraim McDowell, of Kentucky, first practicing it.

In Gynecology, he said, the whole professional world cheerfully and gratefully acknowledged the original and valuable contributions of Sims, Thomas, Emmet, Peaslee, Atlee, Kimball, Taylor, Pallen, Dunlap, Minor, and others in this department.

The new operation of Litholapaxy, as performed and described by Dr. Bigelow, of Boston, is one of the grandest triumphs of modern surgery, and of which any American surgeon may justly feel proud.

In Conservative Surgery, as in the mechanical treatment of diseases of the joints alone, we are able to exhibit triumphs in surgery of which the American profession may well be proud.

Says Mr. Roderick Maclaren, M. D., in the *Lancet*: "No account of the recent progress in surgery can justly omit the application of the principle of absolute rest to diseases of the vertebræ. It is done by enclosing the body in a plaster-of-Paris jacket. Though only introduced into this country about two years ago, it has established itself as an *incontrovertible success*." This is another triumph of American surgery.

In Laryngology, we can certainly claim Green as a pioneer, and the facts he established are now acknowledged by the entire scientific world.

The number of delegates and members present was said to be larger than any other similar meeting since the war, and was fairly representative of every part of the United States. As the *Record* states, the Committee of Arrangements was very successful in its efforts to systematize the workings of the general session and of the various sections, and proves what could be done when the real wants of the Association as to business management are properly understood. The *Medical Record*, published by Wm. Wood & Co., and edited by Dr. George F. Shrady, issued each day a journal containing the proceedings of the day

previous, and an elaborate programme of the day of its issue. This was an entirely new and valuable feature, and those projecting it merited the thanks of all for their enterprise.

We regret that it is said that the papers before the various sections were, with a few notable exceptions, much below the par of usual society material. We were told that, in several instances, papers were presented which had been read and reread before different medical societies. The authors, after having written their papers, must have become exhausted, and were not capable of any further literary and scientific efforts. The discussions, prompted in a number of instances by the papers, however, were not unfrequently interesting and valuable, and we may, at a future time, publish some of them.

A new section was established, viz.: On Diseases of Children. Much good work is expected to be done by this new section.

The next meeting of the Association will be held in the city of Richmond, Va., commencing the first Tuesday of May, 1881. Dr. John T. Hodgen, of St. Louis, is the President elect.

There were many entertainments given the Association. One at the Academy of Music we heard spoken of in high terms; another was at Booth's Theater—Mr. Booth, the great actor, performing in one of the plays of Shakespeare. The excursion to Coney Island, on the Grand Republic, was exceedingly enjoyed by all the delegates and invited guests, all of whom felt themselves under the greatest obligations to Wm. Wood & Co., the eminent publishers of medical books, to whose generous courtesy they were indebted for the truly magnificent ride. The splendid steamer had nearly a thousand persons aboard. It started from the pier at 1 P. M. up the Hudson, going as far as Yonkers, a distance of ten miles; returning, passed around the battery and Blackwell's Island, thence down the Bay to the Iron Pier at Coney Island, near twenty miles from the city, where it arrived at about 5 P. M. Gilmore's Band was on board, and entertained all with its fine music. The Pier, built entirely of iron, and extending out into the water an immense distance, is one of the finest structures we ever saw. At the Pier a sumptuous repast was served, which was greatly enjoyed. The boat left the Pier at 8 P. M. on its return to the city, plenty of time

having been given for promenading and enjoying a fine view of the ocean. Very many, on this excursion, were afforded their first sight of the great Atlantic.

— There will be none who will ever forget this grand excursion up the Hudson, up the East River, and down to Coney Island and return. Messrs. Wm. Wood & Co., by whose liberality the delightful excursion was furnished, will always be held in grateful remembrance. On the return appropriate resolutions were passed, thanking the gentlemen for their munificence.

“CHOLERA BUGABOO.”—This is the heading of an editorial article in the daily *Enquirer*, of this city, of June 13. The article was instigated by a report made by the gentleman claiming to be Health Officer, Dr. Abijah J. Miles, that several cases of cholera had occurred in Cincinnati. Neither at the time of the report was there, nor since has there been, the slightest evidence of cholera existing in the city, and the query has been made many times, What was the object of such a report? Some have suggested that] the appointee of the individuals who are having their pretensions as a Board of Health in course of examination by the courts, desired to have attention drawn to himself by getting up a panic, undesirable as such a circumstance would be on the eve of holding in the city a great convention, and injurious to the general prosperity occurring at any time. But it is difficult to understand how any one could suppose that he could gain *eclat* in that manner. Instead of *eclat* only contempt could be the result, for the report, as was the case in this instance, would soon be shown to be untrue. We can not, therefore, conceive what could have been the object, if there was any object at all. We are inclined to think that the gentleman, by being held in long-continued doubt as to whether or not he will be able to maintain his position as Health Officer, has been rendered *non compos mentis*.

A local editor of the *Enquirer*, learning of the report of Dr. Miles, who is now acting as Health Officer until the courts decide whether the gentlemen who appointed him as such are a legal Board of Health, that genuine cases of Asiatic cholera had appeared in the city, called upon quite a number of physicians of the city to inquire whether the report was correct or not. He also visited the Cincinnati Hospital, where Dr. Miles said there had occurred

several cases. After a due investigation as to the truth of the report, there appeared the editorial in the *Enquirer* to which we have alluded, and from which we make the following extract:

There are some people in this world whom the good Lord, when he created, intended for the circus business. By a sad mistake they sometimes miss their vocation and crawl into medicine. Their chief qualification is to blow their own bugle, shoot off their own mouth for their own glorification, and make out that everything they have any connection with surpasses and excels, overleaps and goes far ahead of all other people. In the circus business such talents are appreciated, but Heaven help the city that has such doctors in its Board of Health. One Dr. Miles has crawled into the Health Office of this city, that the able and courageous Dr. T. C. Minor lately held. Dr. Minor won a national reputation, and Miles, envious, determined to raise a racket on his own hook. So he issues a cholera proclamation with a view to scare to death those that are in the city, and frighten those who are away from coming here. He hunts up a *Gazette* reporter and tells that worthy that there are genuine cases of Asiatic cholera in the city, and one especially at the Hospital. The statement was a bare-faced misstatement. There has been no case at the Hospital of Asiatic cholera, as the statements given below of Dr. Jones and Dr. Harmon prove.

We here append the statements of the Superintendent and of the medical *interne* to the *Enquirer* gentleman, as to the truth of there having been cases of Asiatic cholera treated in the hospital:

The Superintendent of the Cincinnati Hospital was found in his office. He said "that he had not heard of any cholera cases this year. There were no cases of cholera at the Hospital. They had had several cases of cholera morbus, but none fatal. A case was brought in this morning, and it was said to be cholera, but it turned out to be whisky. There have not been with us as many cases of cholera morbus this season as usual."

At this juncture Dr. F. W. Harmon, resident physician, who admits all the cases that come into the Hospital, entered the room. He said: "Cholera, why, we have had no cases."

The Doctor's attention was called to the article in yesterday morning's *Gazette* to the statement that a peddler had been taken off the street, "all the symptoms of Asiatic cholera well marked."

"Well, I'll produce the books and show you. That was a case of cholera morbus, and the patient *was discharged in two days*, so it could not have been a very serious case of cholera. Here is the record:

"JUNE 8, 1880.

"No. 26,998. Name, Robert Schmutzler; age, thirty; occupation, driver; married; nativity, Germany; resident of the city for seven years; from Germany; residence, Fifteenth and Bremen Streets; name of next friend, Emma Schmutzler, wife, residence same; examined by Shroeber; cause of entrance, sickness, and admitted to E Ward by order of Superintendent. Discharged June 10, 1880; condition, well; treated by Dr. Murphy; sporadic cholera."

Having interviewed the Hospital authorities, the local editor called upon, as stated, quite a number of physicians of the city, to learn what he could from them as to the existence of cholera in Cincinnati. We have not space to

publish what each one of them had to say, therefore, we will only give an account of the interview with Prof. J. T. Whittaker, of the Medical College of Ohio. We will state that, of course, every physician called upon unhesitatingly said that he had not seen nor heard of any cases of cholera in Cincinnati, and did not believe that there were or had been any.

Dr. Whittaker said that he had seen no cases of Indian cholera, though cholera morbus or cholera nostra prevails to sufficient extent as to be considered epidemic. The present season, with its sultry heat and changes of temperature, was peculiarly adapted to develop the disease, though these conditions always exist at some time or other during the hot months of summer or early fall.

Cholera morbus prevails everywhere under these conditions, and does not follow a special line of travel like Indian or Asiatic cholera. We would not look for cases of Asiatic cholera here until we heard of it in New York, New Orleans or some seaport town in quick communication with us. For Asiatic cholera does not originate spontaneously anywhere. The germs or poison peculiar to and causative of the disease are indigenous to India, where cholera is as old as the human race, and all recent investigation has only confirmed the statements made centuries ago, that the home of cholera is at the mouths of the Ganges and Brahmaputra, whence it is disseminated by direct transportation to Europe, and thence to this country. And although it seems now a fact as well established that the cholera germs have become acclimated in parts of Europe so as to require no longer a transportation from its primeval home, there is no proof that they live anywhere with us. Until we hear of cholera in Europe, and in the East or South of our country, we are not justified in looking for cases here. At the same time it must be admitted that cases have been brought to us from abroad without any knowledge of the authorities at the seaport towns, and have developed among us a genuine epidemic. At least such seems to have been the origin of our last epidemic.

But cholera morbus does not need a special poison. It owes its origin either to the ingestion of partly decomposed articles of food, whereby the alimentary canal is filled with the germs of common decomposition in greater number than the digestive juices can kill, or to the deleterious influences upon the skin of rapid changes of temperature. Either of these causes may be made to evoke in the lower animals, by direct experimentation, the train of symptoms characteristic of cholera morbus.

The means of preventing the disease, then, suggest themselves at once. Stale and decomposing articles of food must not be introduced into the body, and the surface of the body must be protected against the frequent changes of temperature by corresponding changes of attire.

Fortunately, the disease is for the most part easily controlled, but damage is often done by unskillful hands in suddenly checking the discharges. So long as the evacuations from either the stomach or bowels consist of undigested food, or of digestive juices, they should not be checked. On the contrary, their discharge from the body should be hastened in every way. To check the discharges at this period is to lock up in the body the poison of the disease. Hot water is a good evacuant in the early stages of the disease by injection into the stomach and injection into the bowels. It has the advantage also of being easily and quickly brought into use, and cloths wrung out of hot water will best allay the torturing cramps. When all color disappears from the discharges then is the time for quick action in

checking the further progress of the disease and preventing the supervention of a dangerous collapse. This is the business, of course, of the practitioner of medicine.

A CRIMINAL HANGED AND RESUSCITATED.—The *Courier of Medicine* has the following:

The city of Raab, in Hungary, has been the scene of a very remarkable occurrence, which is of considerable professional interest, as well as the occasion of much discussion among the laity.

Le Temps, quoted in *L'Union Medicale*, gives the following account of the circumstances: Toward the end of November, 1878, two women were assassinated on the Bosnian frontier, with unheard of refinement of cruelty, by two Hungarian bandits, who were discovered. One of the two died in prison during the trial of the case; and the other was condemned to the gallows in expiation of his crime. He was named, or rather he is named, Jean Takacs; he is a robust fellow, whom eighteen months of prison and scurvy have not enfeebled, who still possesses vital force and great muscular elasticity.

The execution took its natural course; the proclamation of the sentence and legal process lasted, in all, twelve minutes. The executioner was a skillful man, named Kozavex. At the end of two minutes, and after the determination of death by the legal physician, the hanged man was removed, and taken to the dissection room of the hospital of Raab. But at the moment when Professor L. Bierbauer was going to make upon the supposed cadaver, experiments with electricity, he commenced to twitch, and a convulsive rattle came from the throat of the man executed. An indescribable panic took possession of all the attendants. Instructions were immediately demanded from the attorney general, for the unforeseen case of one hanged, whose muscles contracted without the aid of electricity. While awaiting these instructions, they occupied themselves in recalling wholly to life the unfortunate. It was determined that the vertebral column was intact, and that a scorbutic wound, which the hanged man had upon his neck, by reason of the chafing of the cord and the intense pain produced, had brought about a cataleptic state similar to death. The response of the attorney general has been delayed, for he had to apply to the minister of justice in order to have instructions himself. The defender of Takacs has

asked of the emperor, by telegraph, the pardon of the prisoner, who, we must certainly admit, will not be sent a second time to the scaffold. *Non bis in idem.*

According to the last information there are greatly swollen glands, which prevented the complete interruption of the circulation of the blood and respiration, and consequent strangulation. The executioner has been ordered to Pesth, to give account for his lack of skill. The man executed had been taken down too soon from the gallows, after the determination of death made by Dr. Sikar, deceived in the diagnosis by the catalepsy.

The return to life took place upon the dissection table; the first involuntary movement was to carry his hands behind his head, then he fell into a horrible attack of delirium tremens and has not yet recovered consciousness. Will the cerebral fever complete the work of the incompetent executioner?

Takacs is a valuable subject for study for science, and it will be interesting in many points of view, that this man should escape death, especially if he come to a condition to reveal to us the true feelings of one truly hung. We might so have an element of appreciation, so as to enable us to choose between decapitation and strangulation, as a sure and prompt means of executing high criminals.

In case the arousing of this man from the state of catalepsy had been delayed a few moments longer, the phenomena would have been referred to the influence of electricity—another illustration of the necessity of extreme caution in scientific investigation, not to assert too positively, or on insufficient data, the existence of a causal connection between two sets of phenomena.

SPECULATION IN OPIUM.—A writer in one of the New York daily papers calls attention to the fact that there is now likely to be a "corner" in opium, gotten up for speculative purposes. For some weeks past, he says, it has become evident that the supply of medicinal opium would fall short of the actual public requirements. It seems that the supply for the last two years has been five thousand to six thousand cases, of one hundred and fifty pounds each on the average; but last year the production fell off to about four thousand cases, and the estimate

of the coming crop is reduced to about fifteen hundred or two thousand cases, owing, it is stated, to the unusually cold weather that has prevailed in Turkish Asia. The annual consumption is about five thousand cases, and had it not been for the extraordinarily large crop in 1877-78, which amounted to nearly ten thousand cases, the scarcity of the drug would have been felt during the current year. This unusual surplus, however, is now exhausted, and the visibly supply is reduced to about four thousand cases, distributed between London, Smyrna and New York, of which it is estimated that at least one thousand cases are unfit for use. Such being the statistical phase of the supply and demand of opium, it is not perhaps surprising to learn that Wall Street, aided by some London speculators, has gobbled up nearly all the available opium in the United States, and that the price has already gone up from \$4.00 or \$4.50 a pound in bond to \$6.50 or \$7.00. Opium being an article that the public can not dispense with, it seems altogether probable that during the present year it will rise to at least ten or twelve dollars, thus recalling the days of a dozen years ago, when the small supply of the drug was controlled by a few men, and it was sold in jobbing lots as high as thirty dollars a pound. There can certainly be no doubt, if the above statistics are correct and the short crop of opium in Turkey is a fact, that the speculators will have it all their own way, because our own trade can not look to Europe for a renewed supply, on account of the scarcity of the drug there as well as here.

UNITED STATES POSTAL LAW.—1. A postmaster is required to give notice *by letter* (returning a paper does not answer the law) when a subscriber does not take his paper out of the office, and state the reasons for its not being taken. Any neglect to do so makes the postmaster *responsible* to the publishers for payment.

2. Any person who takes a paper from the post-office, whether directed to his name or another, or whether he has subscribed or not, is responsible for the pay.

3. If a person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it until the payment is made, and collect the whole amount, *whether it be taken from the office or not*. There can be no legal discontinuance until the payment is made.

4. If the subscriber orders his paper to be stopped at a certain time, and the publisher continues to send, the subscriber is bound to pay for it *if he takes it out of the post-office*. The law proceeds upon the fact that a man must pay for what he uses.

5. The courts have decided that refusing to take a newspaper and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

THE Chicago *Medical Gazette* divides medical colleges into four classes: "(1.) Colleges which, from their circumstances and surroundings, have the power to introduce any desired reform, and do it. (2.) Colleges which, from their circumstances and surroundings, have the power to introduce any desired reform, but, with an eye to dividends, do not do it. (3.) Colleges which, from their circumstances and surroundings, have not the power to introduce reforms to the extent which they would desire, but do their best. (4.) Colleges which, from their circumstances and surroundings, have neither the power nor the inclination to introduce any desired reforms, and do not try."

GALVANIC BATTERIES.—We desire to inform subscribers that this office has still a number of galvanic batteries, manufactured by the "Galvano-Faradic Manufacturing Company," of New York, for sale at a bargain. They are in excellent order, and will be sold cheap.

WE have sent a few copies of the NEWS to a number of physicians who are not subscribers. We desire to say to such that, after this number, they will receive no further copies unless we hear from them. The MEDICAL NEWS is the cheapest medical journal published in the United States, and certainly can not be excelled by any in the quality of its matter. There is contained in it nearly a thousand pages a year, and only \$2 is charged.

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ORIGINAL CONTRIBUTIONS.

Ossification of the Choroid, Malignant Tumor, Enucleation and Sympathetic Ophthalmia.

BY W. R. AMICK, M. D., CINCINNATI, OHIO.

MR. W. H. NEW, aet. fifty, is a healthy, well-developed man. His father was never known to be sick, and lived to be 104 years old. His mother never had any sickness, except rheumatism, and was 103 years old when she died.

About twenty-seven years ago Mr. New had his left eye injured by a piece of gun-cap striking it near the inner canthus. The cap also produced a wound of the integument, internal to the canthus. Does not know whether the cap penetrated the globe or not. Vision in this eye remained very good for a few days after the injury was received, when he was exposed in the cold night air. This produced a severe inflammation, which was treated by leeching, cold applications, etc. After six weeks' confinement in a dark room, he was able to be out on the street, but vision had been reduced at least one-half. From that date up to the commencement of the present attack, he has had little or no trouble with the eye, except the diminution in vision; and, as the right eye was normal, the defect in sight in the left did not give him any annoyance.

On the fourth of August, 1877, he received an injury to the cornea of the right eye, producing a traumatic keratitis. I noticed at that time a peculiar condition of the left eye. Vision was reduced to perception, and entire

inability to distinguish objects. The anterior chamber was very deep, and the iris concave, anteriorly, indicating a displacement or absence of the lens. The color of the iris was a reddish brown, while in the other eye it was gray. The pupil of the left eye was, at this time, occluded by fine brownish lines, looking like the result of plastic inflammation and pigment, passing across the area from one margin to the other. I tried at this time to make an ophthalmoscopic examination, but could not see anything posterior to the iris. The keratitis of the right eye yielded to treatment, and in the course of two weeks was well. From this time he had no more trouble with either of his eyes, until the last of January, 1880, when traveling on the cars he got a cinder in the left one. This caused an inflammation to spring up, which gave him so much pain and annoyance that he was obliged to return to the city before completing his traveling route. He presented himself for treatment on the seventh of February. At that time he complained of severe pain in and around the eye-ball, and extending all over the left side of his head. The eye-ball was so painful that it could scarcely be touched, and it was impossible to ascertain the tension. The palpebral conjunctiva was very highly injected, and the ocular, chemotic, with a marked peri-corneal rosy zone. The aqueous humor was turbid, having a brownish cast, so that the iris could not be seen. The ophthalmoscope, as is very evident from the last statement, could not be used. Atropine and warm applications were used locally, and alteratives and morphia internally. This course was continued for fourteen days, when the eye had so much improved that he went out on the road to attend to his business. When he returned, a week later, his condition was much worse than when he left. The inflammation was more marked and the pain much worse, so much so that narcotics had to be used freely. Applications of alum curd were then made to the eye, and produced great relief. In fact, as was afterward demonstrated, this gave greater relief than any or all of the other applications combined. Even when taking morphia liberally, in half and two-third grain doses, with warm fomentations to the eye, he did not experience one-half the relief that he did from the curd. This fact became so well known to him that he did not think of retiring at night without first applying it, and then again renewing it at intervals. Al-

though this application for a time gave complete relief, the pain again returned, and morphia had to be used freely in conjunction with it.

At this time we suggested that the better policy would be to remove the injured eye, as there were evidences of sympathetic trouble in the right. But, as is natural with any person, the idea of having an eye removed was very unpleasant, and he preferred to continue the treatment for awhile longer, with the hope of obtaining relief.

The turbidity of the aqueous humor which had returned with the relapse had again passed away (April 1), so that an examination of the anterior surface of the iris could be made. It was then discovered that the occluded pupil had been drawn about one line toward the outer canthus, and a small yellowish-white tumor, about half the size of a pin's head, was seen. It appeared to arise from the outer portion of the anterior surface of the iris, when viewed from the outer canthus; but, when viewed from the opposite side, it appeared to have pushed its way through the occluded pupil. This tumor increased in size, so that by the latter part of the month, it was about ten times as large as when first noticed. It resembled very much in appearance the pituitary body of the base of the brain.

As the pain and inflammation were not relieved by treatment, and the sympathetic trouble in the opposite eye increasing, we proposed that an operation be performed for the purpose of removing the tumor from the anterior chamber, and leave the eye in a condition at least so that the vitreous chamber could be examined. To this proposition he immediately consented. However, we gave it as our opinion that the trouble was in the posterior portion of the eye, and that ultimately the globe would have to be removed.

On the twenty-ninth of April the first operation was performed. Dr. M. L. Amick administered ether, and an incision was made in the sclero-corneal junction, external to the tumor. When the iris was grasped by the forceps, by the side of the tumor, and traction made, a small piece, that which was contained in the bite of the instrument, came away. The forceps were then passed beyond the tumor, and the iris grasped, and when traction was made the latter loosened from its peripheral margin, and came away entire, bringing the tumor with it. Hemor-

rhage into the anterior chamber followed, completely filling up the latter. One thing was noticed, in making the incision, the point of the knife, Graefe's cataract, could hardly be pushed through the cornea, and after the puncture and counter-puncture had been made, it required considerable force to finish the incision, and gave a cartilaginous impression. After the operation a compress and bandage were applied. Under the usual opiate he passed a comfortable night. The next day the pain in and around the eye was much less, and, with the exception of headache from the ether, felt more comfortable than he had for some weeks. Three days after the operation the wound presented a very favorable appearance, and had apparently healed by first intention. But the same old pain, in and around the eye and side of the head, returned, and with it the sympathetic trouble in the right eye began to increase very rapidly. An attempt was made to examine the operated eye with the ophthalmoscope, but nothing but a black mass, completely filling the anterior chamber, could be seen. This mass apparently turned from black to a yellowish hue in two days, as at the end of that time nothing but this amber-colored reflection could be seen in any portion of the chamber. This yellowish reflection afterward proved to be due to a change in the color of the cornea.

It was then decided that the only chance to save the right eye from the destructive influence which had already made a serious inroad on the vision of that organ, as well as to give relief from the now almost intolerable pain, was to enucleate the offending member.

On the sixth of May, just one week after the first operation, Dr. M. L. Amick again administered ether, and the eye was enucleated. At this time there was considerable inflammation of the conjunctiva, and a very marked chemosis. After the enucleation he came from under the influence of the anæsthetic in a very few minutes. There were no unpleasant effects, such as headache, nausea, etc., following the use of the ether at this time; whereas, at the first operation, the after-effects, and especially the cephalalgia, were a couple of days in disappearing. In a few minutes after the operation, he expressed himself as being entirely free from the pain that had previously rendered him so miserable, and he has not had the slightest trouble from that source since. In a word, the enu-

cleation of the eye-ball was a complete and radical cure. The wound produced by the removal of the globe was treated antiseptically, and healed very kindly.

EXAMINATION OF THE ENUCLEATED EYE-BALL.

On making a horizontal incision through the cornea, two-thirds of the way back to the entrance of the optic nerve entrance, about a dozen drops of a brownish aqueous fluid escaped. This incision was made at a right angle to the one made at the first operation, and when the latter was reached it opened up throughout its entire length with very little resistance. Although this first incision had apparently united by first intention, it proved to be only stuck together, and maintained in that position by the compress and bandage. The entire anterior portion of the eye was filled with a dark mass, which was chiefly composed of blood that had not been absorbed, together with a portion of the ciliary body and pigment. The retina was completely detached and collapsed, forming a small grayish-white cord that entered into the posterior portion and became a part of the disorganized mass that was located in the outer part of the vitreous chamber, in the region of the ora serrata. All of the posterior portion of the choroid was ossified, forming a concavo-convex disc. Anterior to the margin of bone the choroid was absent, except at the anterior, inferior and external portions, where there was a remnant left, and this united and became a part of the mass already spoken of in the region of the ora serrata. There was an opening through the ossified portion of the choroid, through which the collapsed retina passed to become the optic nerve. This is what kept the disc of bone in its position. There were two other small openings, or canals, in this disc, into which vessels from the retina entered. These vessels were still intact. The tumor, or mass, as it has already been designated, involved all the coats of the eye except the sclera, and it was firmly adherent to the latter at a point midway between the inferior and external recti muscles.

The following measurements were noted: The cornea, at its internal margin, was 2.5 millimetres—in the center two millimetres; and at the external margin and along the incision made at the first operation, 2.5 millimetres in thickness. The sclera, near the internal limbus of cornea, was .85 of a millimetre in thickness; near the ex-

ternal limbus, 2.25 millimetres. In the equatorial regions, 1.50 millimetres; and near the optic nerve entrance, 2.5 millimetres.

The following microscopical examination of the small tumor that was removed at the first operation, was made by Dr. J. A. Thacker, editor of this journal:

Dr. W. R. Amick, of this city, having recently removed the left eye of Mr. New, which had become degenerated with a diseased mass, he left a specimen with me for microscopical examination. The specimen was of quite soft texture, precluding the making of any section of it. Untreated by any reagents, a small portion had to be snipped away with forceps and knife, and placed upon the slide, and then spread out with a needle. Covering with a glass cover, after dropping a little glycerine upon the object, examination was made with a Bausch & Lomb quarter-inch lens, magnifying about 180 diameters. The field that was presented was filled with small round cells, of about the size of blood corpuscles, magnified about 120 diameters. In some of the cells nuclei were plainly visible, but in very many of them were not. Nuclei, or granular matter, were however very thickly scattered between the cells. Areolar tissue could be observed between the cells, acting as a connective or supporting tissue to them and the free nuclei or granular material. More or less of what were obviously oil cells were to be seen.

Although the examination was not a closely minute one, not taking time to examine different portions of the specimen, treated first by different reagents, yet I feel convinced that the tumor, or diseased mass, was of a malignant character.

SYMPATHETIC OPHTHALMIA.

The condition of the right eye, previous to the first operation, was as follows: Photophobia marked so that he could not keep the eye open but a very short time in a moderate light. Whenever it was opened, lachrymation was profuse. There was an inability to look at even a large object for more than a few seconds, when the eye would become very weak, and everything enveloped in mist. The pupil was sluggish, and responded feebly to light. There was a peri-corneal rosy zone, and an injected condition of the conjunctival vessels. For two days following the first operation there seemed to be an improve-

ment in the condition of this eye. On the fifth day the iris would not respond to light. The photophobia and lachrymation had increased. The pupil was irregular, and at its upper margin the iris was glued down to the capsule.

Following the enucleation, for two days, the right eye again showed signs of improvement. On the third day after, he complained of dimness of vision, which was more marked than at any previous time, and almost entire inability to see small objects across the room. The prognosis at this time was unfavorable, as there were indications of an iritis developing; and as the tendency is for the inflammatory process in these cases to pass to the choroid, the ultimate result was unpleasant to contemplate. Fortunately it was of a benign character and did not progress any further than the development of posterior synechia. The treatment was both constitutional and local, with the eye bandaged and confinement in a dark room. Three weeks later the eye showed considerable improvement. Six weeks later it was still sensitive to light. At the present time all signs of irritation have passed away, and with spherical plus eighteen he has no trouble in reading diamond print.

It probably is a mooted question with some as to the propriety of calling this sympathetic ophthalmia, as they are of the opinion that in order for an eye to be denominated by this appellation, there should be irido-choroiditis, or hyperplastic cyclitis. If the iris had not been implicated sufficiently for the formation of posterior synechia, we would consider that it was a case of sympathetic irritation. We are well aware of the fact that this is a form of trouble that generally runs its course, and generally ends in destruction of the organ. Mackenzie says, that "whenever I see sympathetic ophthalmitis, even in its first stage, I know that I have to contend with an affection which, however slight its present symptoms may be, is one of the most dangerous inflammations to which the organ of vision is exposed," and that he has seldom seen an eye recover when once the trouble had been lighted up.

Lawrence says, that sympathetic ophthalmia "is characterized, when fully developed, by redness of the sclerotica, change of color of the iris, contraction and adhesion of the pupil, cataract, diminution or loss of sensibility in

the retina." Stellwag says, that the "prodromal appearances very frequently precede the actual outbreak of the sympathetic irido-choroiditis. The second eye shows its participation, first of all, by great sensibility and inability to bear bright light, or any straining of the accommodative apparatus. There is also temporary clouding of the field of vision, annoying sensations of pressure and tension; subsequently more frequent attacks of pain spreading all over the head, and episcleral congestions. Or there may be transient marked discolorations of the iris, with complete dilatability of the pupil by atrophine (Mooren); finally, after more frequent recurrence of these attacks, true iritis is developed, with formation of synechia." From this last statement it is evident that Stellwag considers that when the sympathetic trouble has so far developed that iritis with synechia exists, that it is properly a case of sympathetic ophthalmia.

The Therapeutic Value of the Iodide of Ethyl.

BY ROBERT M. LAWRENCE, M. D., BOSTON.

THE iodide of ethyl or hydriodic ether, $C^2 H^5 I$, may be prepared by the careful distillation of a mixture containing ten parts of iodine, five parts of absolute alcohol and one part of phosphorus.* It is normally colorless, but on exposure to light becomes a reddish-brown, owing to the separation of the iodine and ethyl, the decomposition taking place slowly in diffused daylight, quickly in sunshine.† Its odor is like that of chloroform, its taste sweetish. It is soluble in alcohol, but not in water. It has no acid reaction, is non-inflammable, and boils at $158^{\circ}F.$ ($70^{\circ}C.$).

Its specific gravity is 1.93 at $59^{\circ}F.$ ($15^{\circ}C.$).‡

Although discovered by Gay-Lussac in 1815, it does not appear to have been proposed as a medicinal agent until 1850, when M. Huette made some experiments with the object of determining its value as a remedy in phthisical dyspnoea.

* U. S. Dispensatory, part iii. 1871.

† Waitt's Dictionary of Chemistry, vol. ii. p. 534.

‡ Stillé and Maisch's Dispensatory.

Influenced by his favorable report, Dr. Turnbull, of Liverpool, employed it in chronic pulmonary affections. In an address before the British Medical Association,* he remarked that iodine had often been tried in this class of diseases, but that its use had been abandoned on account of its irritating effects. In order to give it by inhalation, it was desirable to find a compound possessing the requisite volatility and absence of irritating qualities, and he considered the iodide of ethyl to be such a compound.

However, the drug was soon forgotten and was unheard of for nearly twenty-five years, until attention was directed to it by Professor See, of Paris,† who, after employing it in a number of cases attended with dyspnœa, reported that he had found it very efficient in relieving that symptom. In 1879, Dr. Thorowgood‡ made use of it in several cases of asthma, at the Victoria Park Hospital, in London, with good results. The writer has carefully studied its effects, having employed it systematically during the past fifteen months.¶

The drug may be administered as follows:

Having moistened a handkerchief with eight or ten drops, let the patient inhale the vapor therefrom. As soon as he shall have acquired confidence, let the inhalations be made directly from a small vial containing half a drachm of the drug, and applied to the nostrils. Let the inhalations be continued for ten minutes at a time, thrice daily or oftener. Should slight nervous symptoms, due to the primary exhilarating effects of the ether, supervene, the inhalations may be discontinued for some seconds, and then resumed. By this method, the system is kept constantly impregnated with iodine.

After frequent personal experiments, and observation of its effects on others, the writer feels warranted in making the following statement: Ethyl iodide has no depressing effect on any of the functions. It is a mild invigorant, and its primary action resembles that of sulphuric ether, while it differs from the latter in that it has no anæsthetic properties.

A very brief time is required for its absorption. The

* *Pharmaceutical Journal*, 1854-5, p. 232.

† *La France Medicale*, February 2, 1878.

‡ *Braithwaite's Retrospect*, July, 1879, p. 115.

¶ See *Boston Med. and Surg. Journal*, April 29, 1880.

iodine is taken up by the respiratory mucous membrane, and is conveyed by the bronchial and pulmonary veins directly to the left auricle, and thence into the arterial circulation. It has been detected in the urine in ten minutes after the inhalations. The writer has found it in urine voided at the following intervals: forty-five minutes; one, seven, eighteen, twenty-four, thirty hours.

Its physiological action is thus described by M. Huette:* "After some inhalations, an impression of calmness and satisfaction announces that the hydriodic ether acts at first in conformity with the other ethers employed in medicine. The respiratory motions are carried on with a readiness and fullness advantageous to the circulation. But the antispasmodic action of the ethereal vapor, which favors the absorption of the remedy, is soon followed by the influence of the absorbed iodine. The increase of vigor ceasing to be limited to the thoracic muscles, extends to the whole muscular system. The appetite is developed, the secretions are increased, the pulse acquires fullness, and the vivacity of the feelings, and the activity of the intellect, prove that the impulse given to the other organs extends to the brain also."

Later observers have not fully corroborated all of the above statements, though most of them are doubtless correct.

The action of the drug on the human system in a state of health, is that of an agreeable exhilarant, and is modified by the circumstances of age, sex and idiosyncrasy.

The only disagreeable symptom which the writer has experienced has been a slight dizziness.

Professor See's opinion on this point is expressed as follows: "After a few inhalations there is observed a greater facility of respiration, and this phenomenon persists for several hours. There is no anæsthetic or soporific effect. Frequently a fit of coughing occurs at the beginning of the inhalation." It appears, therefore, and we may be pardoned for dwelling on this important point, which can be verified by any one who will himself experiment with the drug, that ethyl iodide exerts a special influence over the respiratory function.

It has moreover been proved that this agent, when inhaled, is capable of relieving certain forms of dyspnœa.

* American Journal of Pharmacy, vol. xxiii. p. 156.

How does it accomplish this? What is its mode of action?

We know that when, from any cause, the proportion of carbonic acid gas in the blood is increased, a centripetal influence is conveyed, chiefly by the pneumogastric nerves, to the respiratory nervous center. An undue excitation of this center results, whereby energetic reflex influences are transmitted by motor nerves to the respiratory muscles. In a word, dyspnœa is produced.

1. In the paroxysms of spasmodic asthma and in other forms of nervous dyspnœa,* ethyl iodide appears to act as an antispasmodic by relaxing the muscular contraction of the bronchial tubes. Their caliber being widened, more air finds access to the pulmonary vesicles. The blood becoming once more properly oxygenated, the phenomena of dyspnœa are replaced by freer respiration. Hence the drug may also be said to act by lessening excitomotor action.

2. In the dyspnœa incident to bronchitis and to chronic affections of the air-passages, it promotes a free mucous secretion. Since this secretion becomes at the same time of a more fluid consistency, air is more readily admitted to the lungs. The action of the drug is here partly expectorant, and resembles that of the alkalies.† But since in bronchitic dyspnœa there exists usually, if not always, a reflex contraction of the bronchi, the antispasmodic quality of the drug is also of value in these cases.

3. If we admit that a frequent cause of dyspnœa is an acute tumefaction of the bronchial mucous membrane,‡ owing to a dilatation of its blood-vessels, through vasomotor influence, we may infer that ethyl iodide gives relief by causing a contraction of the capillary vessels.¶

4. When a difficulty of respiration is caused by pressure on the air-tubes, of enlarged and indurated bronchial glands, it is reasonable to expect benefit from the continued use of iodine, administered by this method.

5. When embarrassed breathing is caused by a PASSIVE CONGESTION§ of the bronchial mucous membrane, which,

* Asthma is here classed among the neuroses.

† See *Resumé of Berkart on Asthma*, by Dr. Knight.—*Boston Med. and Surg. Journal*, Feb. 19, 1880.

‡ *Ziemssen's Cyclopædia of the Practice of Medicine*, vol. iv. p. 536.

¶ *Dr. Billings on the action of Iodine*.

§ *Salter on Asthma*, 1868, p. 127.

in turn, is due to an impeded circulation through the lungs or heart in organic affections of those organs, marked benefit can hardly be expected from the drug in question. Yet in cardiac dyspnœa, good effects have been observed from its use.*

6. In general, ethyl iodide appears in some way to favor the oxygenation of the blood, and thus stimulate, in a reflex manner, the respiratory muscles. Thus the increased buoyancy of the act of breathing, experienced in widely different pathological conditions, as a primary result of the inhalation of this drug, may be intelligently explained.

To conclude: If this agent has, as the writer believes, a very positive therapeutic value, and is a prompt, safe and efficient remedy in many forms of dyspnœa, it deserves the serious attention of the profession. May it have a thorough trial at their hands, and be judged on its merits.

A few typical cases are appended, illustrating the effects of the drug.

CASE I. Katharine N., aged fifty, short and of slender build, unmarried, tailoress, first came under the writer's care at the Boston Dispensary, in October, 1876. She had been a martyr to asthma and chronic bronchitis for twelve years. Frequent paroxysms of dyspnœa had greatly reduced her strength, and her sufferings were unusually severe. During the next two years, trial was made of nearly every known remedy, but without much benefit. Tonics and alteratives seemed of no avail.

The nitrite of amyl gave some relief, but was dreaded by the patient on account of its disagreeable physiological effects. In February, 1879, trial was made of ethyl iodide. The result was remarkable. Not only was the dyspnœa relieved, but there was no recurrence of it for several hours, and a good night's rest was obtained. Similar favorable results have followed each inhalation. At the present time, May, 1880, the attacks of dyspnœa are few and far between, and much less severe than formerly.

CASE II. James B., aged fifty-six, slender built indoor man, contracted spasmodic asthma in the army in 1865,

* Professor See, *op. cit.*

and has been subject to it ever since. He had attacks of dyspnœa frequently in the early morning. Has tried most of the usual remedies. In February, 1879, began inhaling ethyl iodide, and found that it gave positive relief. When used at the commencement of a paroxysm, it had the effect of rendering the latter abortive. A decided amelioration of symptoms followed its continued use.

CASE III. Thomas A., aged fifty-seven, plasterer, has had nervous asthma for sixteen years. It first supervened on an attack of bronchitis. Paroxysms of dyspnœa were frequent, and lasted some hours. Was obliged to sit up at night. After trial of different remedies, began inhaling ethyl iodide February 14, 1879. Marked relief followed. After several weeks of this treatment, the paroxysms, which had steadily diminished in number, at length ceased altogether.

April 16, 1880. Patient has been free from dyspnœa for a year past, though his respiration is still wheezy.

Hypodermic Medication.

BY T. J. TYNER, M. D., MEMPHIS, TENN.

Read before the Medical Society of the State of Tennessee.

ON investigating the history of this mode of administering medicines, I find it dates much further back than has generally been understood.

In the New York *Medical Gazette* of April, 1870, is an article showing that Drs. Taylor and Washington used it in the New York City Dispensary, as early as 1839. Their method was by puncturing the skin with a lancet, then injecting the fluid with an Anel's syringe.

Dr. Wood, of Edinburgh, used this method in 1843, and supposed he had priority.

Dr. Gross in his system of surgery edition of 1859, while speaking of subcutaneous injections, says: "The operation which I believe I have been one of the first to perform, is executed with a tight syringe, with a very slender nozzle, which is inserted in a puncture previously made in the skin of the affected part, the subcutaneous cellular tissue being torn up with a common probe to make room

for the reception of a drachm of solution of morphia, holding in suspension from a $\frac{1}{2}$ grain to $1\frac{1}{2}$ grains of the salt, according to the exigencies of the case." Thus it would seem he was absolutely ignorant of all prior investigations on this subject. His own experience, however, was sufficient to convince him of the advantage of the procedure, for, before closing the paragraph, he says: "I believe the subcutaneous injection of morphia will be found highly serviceable in many cases, especially when the disease is distinctly localized, and rebellious to other treatment." Thus it seems he recognized the fact, that morphia injected under the skin in the cellular tissue, would produce its specific effect when it would not do so in the stomach. Prof. Trousseau, in his "Lectures on Clinical Medicine," praises very highly the local application of morphine in neuralgia. His mode of application was by removing the cuticle with caustic ammonia, then dressing the raw surface with the salt. In sciatica he punctured the skin, then insinuated under it small pills of morphia, belladonna, etc., but, strange to say, does not mention hypodermic injections.

While the general or systemic effect of hypodermic injections was observed by Dr. Woods and others, yet they attributed its curative influence to the local action of the drug thus given. Mr. Hunter subsequently demonstrated the important fact that by injecting a distant part, the result was the same as when injected at the site of pain, a very valuable discovery, as abscesses are very apt to follow where the injections are frequently made at the same spot.

However, it was not my intention to discuss the antecedents of the operation, but to endeavor to show that its use has been too much restricted, and that it is not only in extreme and isolated cases it should be used, but in all cases where prompt action is demanded, it is our safest and surest resort. Through the subcutaneous cellular tissue, we do with certainty in a few minutes, what we are uncertain of doing in hours through the stomach. These are extreme views, but I hope they will be borne out by facts. If it is true, and I believe no one doubts it, who is at all conversant with the subject, that medicines are so potent when subcutaneously given in extreme cases, as, for instance, brandy in convulsions due to anæmia of the brain, morphia in intolerant neuralgia, etc., is it not

also time that the proper remedies given in the same way in less urgent cases, would be equally if not more effectual?

For the truth of this proposition there are two very cogent reasons: First, the medicine is taken up by the blood; second, without having to undergo the digestive process similar to that which takes place in the stomach, it enters the circulating current unchanged. That it is taken up by the blood has been proven by such experiments as the following:

If a solution of the *ext. nux. vom.* be injected in the subcutaneous areola tissue of the hind leg of a rabbit or dog, it will produce convulsions and death in a few moments, but if another animal is treated in the same way, the blood vessels in the extremity having been previously tied, absorption is much retarded, the poison will find its way into the circulation so slowly, and in such small quantities, that the specific effect will occur only at a late period, or may not manifest itself at all. I refer to Flint, Dalton, and other recent works on physiology. A very interesting question comes under my notice by force of circumstances; it may have been observed by others, but to me it was not only new, but at the time singular. However, by subsequent experiments, the fact was clearly demonstrated, in individuals whose systems had become tolerant to large doses of morphia by the stomach, correspondingly large doses hypodermically were attended with as much danger as though they had never been addicted to its use. Also, ordinary doses seldom or almost never fail to give relief, when the pain in the same individual had resisted large and repeated doses in the stomach. I have some very interesting notes taken at the time of observation, but it would make this paper too lengthy to read them.

There are conditions of stomach due to nervous impressions, which render digestion impossible for the time. All physiologists have agreed upon this point. The experiments of Dr. Beaumont on St. Martin (the man with gastric fistula), confirms the above statement.

Irritation of temper would altogether suspend the secretion of gastric juice. Febrile action would produce the same effect. Prof. Dalton says: "It is very often noticed that when annoyance, hurry or anxiety occur soon after food is taken, although it may last only for a few moments,

the digestive process is not only liable to be suspended for the time, but to be permanently disturbed during the entire day." This idea may at first sight seem out of place, but a moment's reflection and you will see its bearing upon this subject, and at the same time be convinced of its verity. At all events, science has proven it, and I have referred to it, to give more strength to what is to follow, and that is, in reference to the inabilities of the stomach to perform its functions from some cause or disturbance within itself.

While it is true *literally*, that in excessive pain, excessively large doses of morphine are necessary, yet, in *fact*, I have doubted it for several years, and am now convinced that the pain, through reflex action, produces some disturbance in the stomach, which partially suspends its functions, the result of which is, only a *part* of the morphia is appropriated, the remainder never reaching the blood at all. As proof of this, in severe neuralgia the appetite is as completely suspended as in gastric catarrh. This anorexia does not last only for a few hours, but in some cases for days.

It is a notable fact that we many times fail to get any effect whatever from a drug which past experience has taught us to rely upon with almost certainty. The reason generally given is worthlessness of the drug, when, in reality, it is a failure of the stomach to appropriate it. I have demonstrated this fact with the hypodermic syringe, beyond all reasonable doubt.

In our fall fevers with gastro-hepatic catarrh (which is almost always present), the stomach revolts at everything, and rejects everything almost at the moment it is swallowed, still we write our prescriptions with instructions if the medicine is rejected, repeat it in ten or fifteen minutes, leaving our patient to suffer for hours, whereas, in a few minutes with a decided dose of morphia hypodermically, we make him forget he has a stomach; then with two four-grain doses of quinine in the same way, four or five hours apart, we will as effectually break up his fever as we could with three times that quantity in the stomach, even admitting it be undisturbed and in the perfect performance of its functions.

I hope you will bear with me a few moments longer on this point, as I wish to refer to a case that is very characteristic of the position I have taken; it occurred two

years ago. I was called to see a woman, whom I found to be in labor with her first child (primipara if you please), the head presenting, and tightly wedged in a contracted pelvis. In about three hours she was delivered without instruments, of a living child. I anticipated laceration, but on examination found only slight abrasions of the vulva so trivial that I did not regard them as of any consequence. At my next visit, my patient living some distance from my office, I dismissed the case. Two days later I was called to see her, found her temperature 104, pulse 130. At this visit I learned that she had been the subject of fever previous to her confinement. I saw her again the next day at noon, condition unchanged. Complained of soreness, and, on examination, I was amazed to find that erysipelas, starting from the abrasions in the vulva, had extended upward to umbilicus, and downward to knees, presenting a very high degree of inflammation. In addition to other treatment, I prescribed forty grains of quinine with two grains of morphine in twelve pills, two every three hours until six were taken, the remaining six to be given the same way next morning. At my next visit twenty-four hours later, I found her apparently *in extremis*. Her husband informed me that at eight o'clock that morning she had thrown up all twelve of the pills. He had misunderstood my direction, and given the pills every three hours until all had been taken. I manifested some doubt, and he showed me the vessel in which were the twelve pills coated with a thick tenacious mucus, and but little changed in consistence. Had I not seen them myself, I was prepared to believe him, for she was not in the least under the influence of either the quinine or morphine.

I gave her at once half grain morphine hypodermically, and sent for twelve grains of quinine in solution, and gave at two o'clock one-third in same way, and same quantity at five o'clock. So certain was I that she would die, on taking my leave I told her husband that I would not return, unless he sent for me. I received a message early next morning that my patient was better. Her temperature at 10 A. M. was 100, pulse 86; the erysipelatous inflammation was subsiding, and she had drunk a cup of tea with relish. To be brief, her recovery from this time on was uninterrupted. To sum up: the two first pills remained in her stomach eighteen hours. In a word, from the time

she took the last two, until they were thrown up, was three hours. Not becoming soluble, of course they could have had no effect; hypodermically, the half grain of morphine gave her relief, and the quinine no doubt saved her life, for I sincerely believe she would have died had her stomach been the only medium.

I will call your attention to a different phase of the subject, at least somewhat so. Some years ago, there was published in some one of the journals, I don't remember which one now, nor by whom it was written, an article recommending the subcutaneous injection of ergotine in splenic leucæmia. Believing the authority good, I determined to try it upon the first case that presented itself; which I did, and the result was so decisive that I have used it ever since when convenient. My first case was a lady, thirty-six years of age, married, and the mother of two children. She informed me that she had been the victim of an enlarged spleen sixteen years, during which time her health was very bad; at intervals it would somewhat improve, and the enlargement would be slightly reduced, but at no time did it reach its normal size.

When she presented herself for treatment, she appeared more dead than alive, the spleen was enormously enlarged, she had retroversion of the uterus, and a very troublesome dysmenorrhœa. I would not mention these collateral affections, had not the termination of the case led me to believe that the bearing to each other was very intimate.

I at once commenced the use of the ergotine, giving at the same time an iron tonic. I gave the injections over the regions of the spleen on alternate days. Improvement began at once, and in three weeks I discharged her cured. In all I gave eleven injections, two grains of the drug at each. She bore them well, there being no local disturbance whatever. A few weeks later her husband called, and reported her health as perfect. Her complexion had assumed a healthy appearance. She had increased in flesh, and her uterine trouble had disappeared.

Since then, or in all, I have treated thirteen cases, all whites, two of which were under four years of age, eight males and five females. Ten recovered perfectly, two were benefited, and one could not bear the pain of the operation, although it lasted but fifteen or twenty minutes. He went from under my care after the second injection.

As an experiment in the meantime, I gave the same drug in three cases, by the stomach persistently, and in increasing doses, without the slightest effect upon the disease. Dr. Abercrombie, of Memphis, very kindly informed me of a case in which he used the ergotine by stomach with negative results. This being one in many of the inscrutable problems in our profession, I would not venture an opinion, unless it has already been given, or explained further back while speaking of the physiological action of medicine given subcutaneously, thereby entering the blood immediately, and in an unchanged state. This is at least plausible, if not correct.

As to drugs adapted to hypodermic use, the range is very wide. Either from emergency or experiment, medicines have been brought into daily use, which at first glance would seem, not only inadmissible, but dangerous. Bichloride of mercury and chloroform, for instance, when applied to the skin produces intense pain, while in the cellular tissue, under the skin, the pain is very slight. The subcutaneous cellular tissue seems to possess a tolerance, or is only to a limited extent susceptible to pain; or, perhaps, a more correct solution is, the capillary circulation is so active, the foreign substance is appropriated so quickly it can do no damage. Were it not for this rapid vital action, local phlegmasia would necessarily follow the injection of all irritating substances. In a word, nearly every drug that can be reduced to the soluble state can be used hypodermically. Of course some care is required in preparing the solution, manipulating the instrument, etc. I have never seen but one case which resulted in abscess. The subject was a druggist with congestive fever; we gave him within twenty-four hours 105 grains of quinine, and an abscess formed at every puncture of the needle. The case occurred at Meridian, Miss., and was treated by Drs. Shackelford, Kline and myself. We were of the opinion that too much acid was used in making the solution. The abscesses were small and got well very quickly; however, some induration remained for several weeks.

In conclusion, I think my experience warrants me in saying that the hypodermic syringe is a most valuable instrument, too much neglected, and that the stomach is in many cases a very unreliable medium to the circulation; and further, that in certain cases we can accomplish a

cure with that instrument through the subcutaneous areola tissues, that we could not do through the stomach, although we used precisely the same drug.

The Michigan State Board of Health.

Reported for the Cincinnati MEDICAL NEWS.

THE regular quarterly meeting of this Board was held at their rooms in the State Capitol, at Lansing, on Tuesday, July 13, commencing at 9 o'clock A. M. The following members were present: Dr. R. C. Kedzie, President, of Lansing; Dr. D. C. Jacokes, of Pontiac; Dr. Henry F. Lyster, of Detroit; Dr. J. H. Kellogg, of Battle Creek; and Dr. Henry B. Baker, Secretary.

Dr. Lyster called the attention of the Board to syphilis; a disease to which but little attention was paid by sanitarians, but which causes much sickness and many deaths in this State. He was requested to prepare a paper on the subject, and present it at the next meeting of the Board.

The resignation of Dr. H. O. Hitchcock, of Kalamazoo, as a member of the Board, and the appointment of Prof. E. A. Strong, of Grand Rapids, by the Governor, were announced, and the following resolutions were adopted:

Resolved, That in the retirement of Dr. Hitchcock from membership in this Board, the Board loses one of its most efficient and distinguished members;

Resolved, That the individual members of the Board regret the personal separation thereby entailed, and extend to the retiring member their best wishes for his continued prosperity.

A letter from Dr. Hitchcock commended very highly his successor, Prof. Strong, as also did other members.

BOARD OF HEALTH IN DETROIT.

The Secretary presented a communication from F. G. Russell, city attorney of Detroit, suggesting that the State Board address a letter to the mayor and aldermen of that city, recommending the organization of a Board of Health, and the appointment of a health officer.

Dr. Lyster said there was no way of getting reliable statistics relative to sickness and mortality in Detroit. The record of interments is the only source of informa-

tion, and is not reliable, as the reports to the city clerk are voluntary, and there are many interments (especially of Israelites) outside the city. The old Board of Health was not efficient—because unwieldy—but the “sanitary squad,” of the police force, does some efficient work in enforcing the ordinances relative to garbage, etc. The city police, however, oppose the appointment of a health officer, fearing it will interfere with the work of their “sanitary squad.” It was suggested that perhaps the people of Detroit did not wish real facts relative to sickness and death disclosed. Drs. Lyster and Baker were appointed to prepare a plan for a Board of Health in that city and endeavor to secure its adoption.

SICKNESS AND PAUPERISM.

A communication was presented from Hon. H. W. Lord, Secretary of the State Board of Corrections and Charities, relative to pauperism as a result of sickness. After some discussion relative to the amount of pauperism caused by sickness, and the extent of the field over which a study into the subject should reach, a committee was appointed to investigate the subject, to be known as “the Committee on the relations of preventable sickness to taxation,” with Dr. J. H. Kellogg as chairman.

SANITARY SCIENCE EXAMINATIONS.

The remainder of the forenoon session was principally occupied with routine work, and the perfection of details for examining and marking the standing of candidates in examinations in sanitary science inaugurated the following day, and which require: “The replies on each set of topics shall be marked on a scale of ten, and an average standing of seventy per cent. on all topics shall be necessary, in order to pass the applicant.” One who successfully passes the examination receives a certificate that he is considered qualified to act as health officer of any township, city or village in Michigan.

A paper on “Unsanitary Conditions in our Public Schools,” by G. E. Corbin, M. D., of St. Johns, was read. The paper consisted of details of overcrowding, bad ventilation, and the sickness resulting therefrom which came under his personal observation. The paper will be published in the Report for 1880.

Two valuable papers by A. W. Nicholson, M. D., of Otis-

ville, were presented. One was on "Ozone," and contains details of numerous experiments; and one on "Periodic Fevers," containing detailed records of cases and coincident meteorological conditions. The papers were accepted with thanks, and ordered printed in the Annual Report for 1880.

SANITARY CONVENTIONS.

The Secretary reported that he had edited and prepared for publication the proceedings, etc., of the Sanitary Conventions held at Detroit and Grand Rapids during the past winter, and the copy was in the hands of the printers.

ADULTERATIONS OF FOODS.

Dr. Kedzie said he had received a request from gentlemen in Chicago, to enter upon an investigation of adulterations of foods, and had replied that the Board had no funds. He stated that the adulteration of sugar with glucose was increasing rapidly, and was being done more skillfully. That adulteration with pure glucose did not endanger health, but the sugar was not so sweet. The manufactured glucose, however, was unhealthful to take into the stomach, because of poisonous substances which are always associated with it. Dr. Lyster said a prominent candy dealer had informed him, that all candies excepting rock candies were composed in part of glucose. Dr. Kedzie said nearly all syrups were made from glucose.

The Board performed a large amount of routine work, such as auditing of bills, and adjourned until October 12, 1880.

Remarks of R. R. McIlvaine, M. D., in the Medico-Legal Society of New York, on Capital Punishment.

[DR. PACKARD recently read a paper before the "MEDICO-LEGAL SOCIETY," New York, treating of the best means of producing death in cases of capital punishment. It seems a lively discussion followed the reading of the paper, participated in by the most eminent physicians of New York—a wide range being taken. Not only was it discussed as to the speediest and least painful mode of producing death in the case of criminals, but the merits, if we may use the term, of the death penalty itself, were discussed as a means of punishment—some of the gentlemen emphatically opposing it as barbarous and unchristian, while others insisted that "*whoso sheddeth man's blood, by man shall his blood be shed.*" Among those who took part in the debate was our old friend and former fellow-townsmen, R. R. McIlvaine, M. D., now a resident of New York. As Dr. M. is a debater of no mean abilities—in fact, is quite competent to cross

swords with the ablest, and, in so doing, stands as fair opportunity of inflicting as deep thrusts as he may receive—and as his speeches are always marked for the extensive research and sound reflection they exhibit, we feel quite sure we can afford our readers no greater pleasure than to publish in full his remarks in the debate which followed upon the reading of Dr. Packard's paper. Whether the reader agrees with Dr. McIlvaine or not in his views in regard to capital punishment, yet he will be interested in the many valuable facts stated by Dr. M. Those not acquainted with the Doctor would suppose, as a matter of course, that he had notes before him to read from when he gave the many statistics and mentioned the various facts which are interspersed throughout the speech. But such was not the case—he had not a single written or printed line about him—but only made use of the information he had long before laid up in the ordinary course of his study and reading. His remarks were altogether extemporaneous, not having contemplated making any until he came to make them. We feel safe in asserting that not many persons *in the world* could rise in their seats, and, without having had any previous study or reflection, make such a speech, so interspersed with historical facts and scientific statistics.—EDITOR MEDICAL NEWS.]

R. R. McIlvaine, M. D., desired to know whether the orator of the evening was in favor of capital punishment?

Dr. Packard answered decidedly in the affirmative.

Dr. McIlvaine regretted to say that he was in that event exceedingly disappointed. It has been said by authors that some men anticipated their time, but that others were born behind their time. That the distinguished author of the paper had been born as the apostle Paul claims for himself, out of due season, has been by himself demonstrated, as his time, chronologically speaking, would be about the era of that eminent hangman, Cotton Mather, the distinguished witch executioner, and Quaker hanger of the seventeenth century, 1692—hence his disappointment. Had he come from Boston the ideas enunciated by him would be in keeping with the antecedents of that interesting city, in respect to their conduct towards witches and inoffensive Quakers. But the "City of Brotherly Love," founded by the immortal Penn, whose population has looked upon it as a door of hope for the new era about to open for the liberty of conscience—this city, after more than one hundred years, sends a gentleman on a mission of mercy to teach the world a new means for destroying human life.

Although not avowedly in favor of capital punishment, yet apologizing that Christianity has not been able to dispense with it, he, in his remarks, gives quotations which he uses as a sort of breakwater of his doctrine. He tells us that on the 14th day of March, 1878, a London

telegram says that a bill to abolish capital punishment was on that day put on its second reading in the British House of Commons, and defeated by a vote of 263 to 64.

Now this quotation was intended to fortify himself by what he was pleased to consider the superior wisdom of that legislative body; but in order to counteract the influence of that quotation, the speaker asked permission to quote from a Philadelphia author who was present on the occasion about to be referred to, a gentleman not only of the eighteenth century, but of the nineteenth century, and will continue to be of all time; he referred to Dr. Benjamin Franklin, who was present in the House of Lords. On that occasion the rights of the Colonists were under discussion. Hear what the immortal Franklin says of those hereditary legislators:

"On the 31st of January, 1775, as a third part of the national legislature, the House of Lords gave him an exceedingly mean opinion of their abilities, and made their claim of sovereignty over 3,000,000 of virtuous and sensible people in America seem the greatest of absurdities, since they appeared to have scarce discretion enough to govern a herd of swine. Hereditary legislators, thought I!

"But this was a hasty reflection, for the elected House of Commons is no better, nor ever will be while the electors receive money for their votes, and pay money wherewith the ministers may bribe their representatives when chosen."*

The authority of Dr. Franklin will not be disputed by any one acquainted with books.

The gentleman next, in order further to fortify himself, referred to a circumstance recorded in the ninth chapter of Genesis, which, according to the most recent chronological researches, would be about the year 2348 before our era. This is a well-known passage, a sort of "programme," if you please, of Noah, in which the divine character is represented as saying, "Whoso sheddeth man's blood, by man shall his blood be shed."

It is strange that this passage should be considered as referring to capital punishment, because there is no evidence either in the text or context that such is the fact; but it may be according to what the author of the even-

*Memoirs of the Life and Writings of Benjamin Franklin, private correspondence, Vol. I., pp. 503 and 504, London Ed., 1818.

ing regards it to be—a sort of barricade behind which he can fortify his views.

The speaker (Dr. McIlvaine) referred to another passage in the same book, anterior to that quoted above, when God himself was the theocrat of the universe. It is recorded in the fourth chapter of Genesis, and the chronology of which is about the same as the preceding related event. It is that in which the highest crime known to the law was committed, fratricide. The reported conversation which took place between God and Cain is there represented. Cain did not deny the allegation of the crime; he admitted it, and stated that the punishment was greater than he was able to bear, that it was fearful! What was that punishment? It was simply that of a mark set upon him, "lest any finding him should kill him." That would be evidence to any man who would meet him that he had been guilty of a fearful crime. God did not call in a jury of experts to testify as to his sanity or insanity, or as to the nature of the crime; he did not call in a clergyman to pray him into heaven with a rope around his neck; he did not condemn him to be buried in the cross-roads at night, with a stake thrust through his body, to add to the infamy of the death! All these methods belong to a later civilization, which he was happy to say were giving way to the exercise of more intelligence and humanity, and had no part or parcel in the history of that event.

The world is not now living under the Mosaic dispensation. It would appear that the learned gentleman from Philadelphia was not aware of the fact of a new dispensation in the history of our race. During his lifetime, the Son of Mary had put on record his appreciation of these things. His own words may be found in Matthew v. 38 and 39: "Ye have heard that it hath been said, An eye for an eye, and a tooth for a tooth: but I say unto you, That ye resist not evil."

It would appear in the mind of the speaker that our modern advocates of cut-throatism should have a missionary, in order that they might be enlightened in relation to the Christian administration under which we live, that is, the Christian era; and that all those things which conflict with the teachings of Jesus are necessarily incompatible with the government of human affairs.

At the closing scene of his life on the cross, which was

a comment confirmatory necessarily of his whole life up to that date, it is found that the Lord, while giving up the ghost, uttered the following prayer: "Father forgive them, for they know not what they do."

Passing then to the immediate successors of our Savior, the first event necessary to mention is the martyrdom of Stephen, which is found recorded in Acts vii. 60, of which event there can be no mistake. Stephen, that man of God, was taken out and stoned, and in his last agonies he uttered this prayer: "Lord, lay not this sin to their charge."

These, then, are demonstrative teachings, not only of Jesus in his day, but of his immediate successors; and are the teachings of the fathers of our Christian system thus early in the Christian era. How far we have departed from them the events, and in fact the teachings of the evening would demonstrate; for can anything more infamous be conceived of than that of a man calling himself the representative of Jesus of Nazareth, with all the facts which have been stated here before him, and as his immediate successor, taking his place on the scaffold beside an unfortunate man with his face covered with a black cap and a rope dangling around his neck, offering up a prayer to the eternal God asking him to receive this man into the fellowship of, and as a fit associate for Abraham, Isaac and Jacob, and the spirits of just men made perfect? And yet they claim that he is not fit to live here!

If he is fit for the society not only of the most eminent Christians on earth, but also for the saints in light, why not let him live to call others to repentance? If he is good enough for that, he had better be allowed to remain where he is.

Now, in the light of the teachings which have been demonstrated from the prophets, from the Lord Jesus, and from the first martyr Stephen, may it not be concluded that if men have the spirit of Jesus in them they could not possibly act as hangmen and cut-throats; and may it not be inferred with the apostle Paul, that "if any man have not the spirit of Christ, he is none of his." The spirit of Christ can not direct man in that course; it is diametrically opposed to the law of God; and is it possible that in this Christian era, with all these facts before us, men have been hung for cutting timber; for stealing inconsider-

erable animals worth but four or five dollars? Yet in the time of Henry VIII. men were hanged for vagabondism; and in the era of Queen Ann, in 1702, as late as that, a woman was hung for stealing a five-cent loaf of bread, her infant being taken from her breast and laid on a whisk of straw while this was being done; and her husband was at the same time fighting under Marlboro on the Continent! The poor fellow, when he returned, became insane, certainly, it would be supposed, for a just cause!

Now with all these facts before us, the speaker asked, is there any hope for society in this regard? Is this thing to go on indefinitely? Are men to be hung in direct violation of the divine government? For the more hanging there is the more familiar society becomes with it, and the less terror it inspires. Examine history, and it is found that inconsiderable causes like those mentioned have at times been deemed in the eyes of the law-making powers sufficient to deprive men of their lives. To be sure there has been some amelioration, and some States have gone so far as to practically abolish the death penalty; but have we not in our modern civilization some remedy other than hanging for the crime of murder? Have we no remedy for even that crime?

Murder is committed for one of three causes: 1st. Absolute necessity. A man's stomach will not reason. As a matter of course it requires to be satisfied, and hunger has no reasoning capacity. 2d. Injury, either real or supposed. 3. The love of gain.

Now here are causes, and can not this Society inaugurate influences which will tend to break them up? What is wanted is to cure society of these bad elements. It can not be done by revengeful methods.

He had been hoping that the Medico-Legal Society, a society which is always the first to lead off in that which is for the amelioration of humanity, would inaugurate some measure for the passage of a law which would put a stop to the execution of capital punishment. He expressed his surprise that such a measure had not ere this been set on foot by some leading member. To Mr. J. F. Miller, of the legal department of this Society, belongs the credit of having been the first to make a suggestion which is in sympathy with this great moral movement. The Society should inaugurate a movement which shall illuminate the dark places, and impress the fact that men

are human beings. We want to dispense with the halter; we want to dispense with carbonic oxide, and we want to remove from society the causes which lead to these crimes.

Were he in favor of capital punishment he would say that the easiest way of depriving any animal of life is by submerging it under water and holding it there until it ceases to exist.

Prof. Doremus did not agree with the speaker. He thought the easiest and quickest method of death was by means of prussic acid; not the prussic acid of the shops, but *pure* prussic acid. He had seen rabbits drop dead under the effects of the fumes of this drug, before the acid could get to the animal. That, in his estimation, was a far quicker means of death.

Dr. McIlvaine desired to get rid of that also, and, although it might look rather Utopian, in his estimation this is what is needed; for there is in society, and he would announce it without fear of contradiction, a preponderance of good over evil, of pleasure over pain, of happiness over misery. Let us then, each and every one, instead of devising means of depriving our fellowmen of life, which God Almighty has endowed him with for the best of purposes, determine that, as far as we are able, we shall contribute to the regeneration of society, and correct the false doctrine that the gallows is essential to Christian civilization.

Some years ago there was a lull in capital punishment, but of late years it has been revived. It has become somewhat in excess over that of former times. We have become somewhat familiar with it, and, as a consequence, society has become hardened; for contact with crime renders the conscience, to use the language of the apostle Paul, as if seared with a red-hot iron.

SELECTIONS.

Ethylization—The Anæsthetic Use of the Bromide of Ethyl.

BY DR. LEVIS, PHILADELPHIA.

My observations of the anæsthetic action of the bromide of ethyl, which commenced in April, 1879, have been directed to its physiological action in the human subject, to its practical application in the relief of human suffering, and to its value as compared with other anæsthetics. Every administration has been carefully watched and studied, and records of its phenomena have been made as they were observed. From such basis of experience, I present some facts which may at least help toward a proper estimate and appreciation of its therapeutic value.

Since the publication of my recent articles on the subject in the Philadelphia *Medical Times*, my continued observations have been generally confirmatory of the statements then made. I now summarize the deductions from my entire experience in the anæsthetic use of the bromide of ethyl, and present my convictions in regard to its comparative value.

The terms bromide of ethyl and hydrobromic ether are arbitrarily applied by chemists, in accordance with differing chemical nomenclature; but, for distinctiveness, and without reference to chemical accuracy, I prefer the former expression. I prefer to give to the substance the generic name of ethyl, and speak of ethylizing and ethylization on the same grounds as, by common consent, the words ether and etherization are applied to sulphuric ether.

The decided characteristics of the administration are its rapidity of action, and the quickness of recovery from its impression. I have produced complete anæsthesia in cases of young children in less than one minute. The longest period required to produce the anæsthetic state in adults has not exceeded five minutes.

The ethylized patient recovers much more rapidly than is the case with chloroform or ether. Intellection and muscular co-ordination are regained very soon after the inhalation has ceased. In some instances these functions return as quickly as after the administration of the nitrous

oxide gas, and frequently the patient, on awakening, is able to at once stand erect and to walk.

If the anæsthetic impression be slowly effected, a brief period of intellectual excitement, associated with muscular action or rigidity, may occasionally be manifested; but violent emotion and struggling, if they should occur, are more moderate, brief and transient than in the early stage of the anæsthesia of ether or chloroform. The stage of excitement can generally be avoided by making a rapid impression of the anæsthetic. I have observed that persons accustomed to the habitual use of alcoholic stimulants are less readily impressible by anæsthetics generally, and with them a stage of excitement is apt to precede anæsthesia. In this class of subjects narcotics act as stimulants, and the same holds true with regard to anæsthetics.

As anæsthesia is developed, the circulation generally shows evidences of moderate excitement, as indicated by some increase in the rapidity of action of the heart, and the pulse evinces greater general arterial tension. The face of the patient usually becomes brightly flushed, and, when anæsthesia is profound, the forehead and the general surface are apt to be moist with sweat. In these respects the anæsthesia of the bromide of ethyl differs from the ordinary pallor of countenance, and the usual check of skin-transudation of chloroforming.

The physiological action of the bromide of ethyl does not incline to the dangers of cerebral anæmia and cardiac syncope, which sometimes occur in chloroforming, and, in my experience, no tendencies in such directions have seemed to threaten.

The respiration is slightly increased in frequency until anæsthesia becomes complete, when it assumes the characteristics of normal sleep. The decided indication of the attainment of very profound anæsthesia is the slowing of the patient's breathing, as in ordinary sleep, which becomes easy, long and free. The irritation of the respiratory passages, which often inconveniences the inhalation of ether, does not occur in any degree with the bromide of ethyl. If brought into contact with the skin of the face, it is less irritating than chloroform.

I do not recognize any ordinary after-effects on awakening from the anæsthesia of bromide of ethyl, the patient speedily returning to his normal sensations and usual

condition with but a drowsy sense continuing for a brief time. In my own person, the whole impression is more agreeable than is that of ether or chloroform; and others, who have thus tried comparatively the different anæsthetics, have expressed to me the same appreciation.

The liability to nausea and vomiting is less than after ether and chloroform, but it is not entirely avoided. Occasionally vomiting will occur when food has been but recently taken, and I have in a few instances observed decided nausea and retching when no food was in the stomach, and merely some frothy mucus was ejected. The quick relief from the anæsthetic impression of the bromide of ethyl seems to render less likely the long continuance of the distressing nausea and vomiting, which are liable to follow etherization and chloroforming. It should be borne in mind that the fully anæsthetized patient never vomits, and the manifestation of nausea during the continuance of the inhalation is the indication for making the impression more profound. When vomiting occurs, and persists after anæsthesia passes off, it can best be relieved by giving to the patient small pieces of ice to swallow, or a full draught of ice-water.

The quantity of the bromide of ethyl required to produce anæsthesia varies with individual susceptibility, and with the manner of using it. Its rapid evaporation causes much loss by diffusion in the atmosphere, but this waste may, with a view to economy, be to some extent avoided.

I am in the habit of administering it by pouring two or three fluidrachms on several folds of woven lint, or on a small, soft linen handkerchief, over which is pinned a napkin, folded large enough to cover the entire face of the patient. Anæsthesia is, in my experience, more quickly obtained without the intervention of excitement, if light is excluded, and the temptation to look about avoided, by covering the eyes with a napkin. This plan seems to me to be the simplest and the best, and I trust that the anæsthetic use of the bromide of ethyl may never become complicated or embarrassed by any forms of the absurd contrivances called inhalers. Such apparatus implies that all individuals are, under all circumstances, to be dosed with anæsthetics in the same mechanical manner.

Nothing can be gained by any mechanical device for the purpose, excepting economy in the use of the anæsthetic, and some of the numerous devices would rather tend to

wastefulness. A simple napkin or piece of lint, or both together, which absorb and gradually exhale the vapor, are perfectly effective and controllable as the means of administration, and nothing more can be required.

In commencing the inhalation of the bromide of ethyl, I prefer always to make a rapid and decided impression, with the lint and napkin held closely over the nose and mouth of the patient. It is the object to attain anæsthesia without the intervention of mental and muscular excitement. In the administration of another anæsthetic—the nitrous oxide gas—we are familiar with the uncontrollable excitement liable to be produced by slowly inhaling small quantities; and we know as well what profound anæsthesia is induced by rapid and impressive doses of the gas. In the method which I prefer, of administering the bromide of ethyl from a piece of folded lint and a napkin, it does not seem possible to exclude so much atmosphere as to cause danger from asphyxia.

In my experience the entire quantity of ethyl consumed in effecting and continuing anæsthesia in any single case has varied from one fluidrachm used in a very brief period, to eleven drachms required in maintaining anæsthesia through an operative procedure of forty minutes' duration.

After having tranquilized the patient's mind by assurances of freedom from suffering and danger, I direct him to inspire and expire, for a time, as deeply as possible. The expirations should be so complete that the residuary air is expelled from the lungs. While continuing to thus breathe deeply, the inhalation is commenced.

This preliminary drill I regard as important, and it will always facilitate the proper production of anæsthesia. Until complete anæsthesia is effected, there should not be allowed a moment during which the patient does not inhale the vapor, and as the anæsthetic becomes exhausted it should be quickly replenished.

It is proper that the administrator of any anæsthetic should be able to recognize and be satisfied with the simple production of the anæsthetic state—insensibility to pain—without pushing the inhalation, as is often through ignorance or carelessness done, to a dangerously toxic condition. The best indication of complete anæsthesia is the change in the breathing of the patient to that of ordinary deep sleep. When anæsthesia becomes profound, there may be a more or less snoring or puffing sound, due

to relaxation of the palatine and buccal muscles. With such manifestations the administration should cease, or be very moderately continued. It should be borne in mind that all anæsthetics become eventually, by continuance, depressing agents, and their administration should not be viewed as a matter of trifling responsibility, and entrusted to careless or inexperienced persons. The administrator should exclusively direct his attention to what he is entrusted with, regarding only the condition of the patient, and not observing the operative proceeding. I have witnessed an ignorant and heedless assistant resting his elbows on the chest of a patient, whose labored respiration and livid, turgid face showed threatening asphyxia, while the administrator gazed abstractedly at a surgical procedure taking place at the groin.

I can not too much impress the greater importance of observation and reliance on the state of the respiration, rather than of the circulation, as an index of the condition of the ethylized patient.

The patient's position should, if possible, be that of dorsal recumbency, with the head slightly elevated and flexed. It is well to remember that in the sitting or erect positions there may be more danger to very feeble patients from syncope. During muscular excitement the neck should not be allowed to be forcibly curved backward, as is the tendency, producing tension on the ante-tracheal muscles and impeding venous return. The chest and abdomen should be free from the mechanical restraint of tight clothing, so that full and deep inspiration may not be impeded. If it should be necessary to have the patient in the prone position, the administration requires watchfulness, lest respiration should, by pressure, become embarrassed.

When practicable, the taking of solid food should be avoided by a patient for four hours, and liquid food for three hours, before the administration of any anæsthetic. If the patient's condition should be feeble, alcoholic stimulants or ammonia may in advance be given. When, in an emergency, anæsthesia must be induced very soon after a meal, the act of vomiting should be carefully watched, and the patient's trunk so held that ejected substances may not gravitate into the larynx.

No fatal case referrible to the action of the bromide of ethyl has occurred, nor even in the now large number of

administrations, as far as I am aware, have there been any dangerous or threatening symptoms; yet, just as in what ought to be the almost invariably safe administration of sulphuric ether, death may occur, but it will, most probably, be in cases in which, if proper care had been observed, the fatal result would have been avoided. Its action does not seem insidious or uncertain; but, judging from the careless and bungling manner in which other anæsthetics are sometimes administered by incompetent persons, I think that so agreeable and unirritating an agent as the bromide of ethyl is liable to be ignorantly, heedlessly and inordinately used, and its usual harmless and beneficent anæsthesia pushed to toxic conditions and even death.

In the minor operations of surgery, occupying but a very brief time, and of but momentary pain, it is sufficient evidence of the production of anæsthesia when the patient does not respond to a sudden call by the voice. The more profound state of anæsthesia is evinced by insensibility of the surface of the conjunctiva to the touch of the finger, and by change in the breathing of the patient to that of normal deep sleep. The occurrence during full anæsthesia of dilatation of the pupils and of general sweating, are frequent but not invariable phenomena of ethylization.

The bromide of ethyl, as most recently produced by our best chemists, differs materially in some of its sensible properties from that which has generally been described by chemical writers, and from that which I first had the opportunity of using.

Its odor is characteristic, but is less decided than that of ether or chloroform, and to most persons it is more agreeable. The article I now use leaves less evidence on the breath of the patient, is soon dissipated from the apartment, and the odor does not remain, as does that of ether, on the clothing of the operator and his assistants.

The bromide of ethyl is said to be liable to chemical change by prolonged exposure to light; but I have kept daily, for more than a month, exposed to direct sunlight, a specimen made by Wyeth & Bro., of this city, and can perceive no evidence of change in either its ordinary properties or its anæsthetic action.

The bromide of ethyl may always be used without danger, in the closest proximity to lights and to the actual cautery, as its vapor is not inflammable. If a few

drops be poured into a tumbler or other deep vessel, a lighted taper or a match is at once extinguished if immersed in the vapor.

I have used the bromide of ethyl in the surgery of two large general hospitals and in private surgical practice, under the most varied circumstances which could be required to test the merits of an anæsthetic. In my use of it in the most abnormal conditions of debility and shock of injury, in capital operations, through protracted periods of administration, in patients from early infancy to extreme old age, it has always been satisfactory and free from manifestations of danger. I express my conviction that it is practically the best anæsthetic known to the profession.

Diabetes and Sepsis.

BY W. ROSER.

DIABETES often causes obscure septic processes, which require regular diet and omission of all hydrocarbons rather than disinfection with carbolic acid.

Up to the present time three prejudices have often frustrated the diagnosis: 1. The supposed incompatibility of diabetes with apparent health. 2. The fashion of believing the cause of all gangrenous ulcers to be bacteria. 3. The supposed incurability of diabetes.

Cases are related tending to refute the above objections. A patient, C. R., æt. 42, with a progressive gangrenous phlegmasia of the foot. Diabetes was found to be present; an animal diet was insisted upon with quick improvement. The sugar was greatly reduced, and finally a resection performed; the wound healed kindly, and the patient was discharged. The animal diet was continued, and the patient remained well. A number of similar cases have been observed by the writer shortly before death, in which a timely diagnosis might have saved life.

Twenty years ago, Nelaton had a case of a prominent gentleman, sixty years of age, short of stature, and plethoric, who received a small wound in the leg. Instead of healing, the wound changed to an ulcer. In spite of varied treatment, the ulceration spread. Nelaton was consulted. An amputation was proposed, but Nelaton opposed it. Suspecting diabetes, which urinalysis proved

to be present, anti-diabetic treatment was commenced, but too late; the patient died.

Professor Marchal (de Calvi), in 1853, was the first to mention the fact of Diabetic Sepsis, and enumerates 133 cases. He also points out that these complications attack, by preference, robust and well-nourished persons of middle age. Peyrot, in 1878, treated of the curability of these diabetic accidents. This question has of late been often brought up at the Societe de Chirurgie of Paris. German surgeons have neglected, and the English text-books are silent on this topic.

Twenty years ago the writer amputated the foot of a fat merchant, 58 years of age, for supposed senile gangrene. The patient died from progressive gangrene. Since there was no other cause for this, he considers it a case of unrecognized diabetes. Again, a mammary cancer was extirpated, progressive phlegmasia ensued, which caused death. Dr. A. Henry mentions a similar case where death ensued from pulmonary œdema. Both were probably cases of diabetes.

Professor A. Fisher recommended carbolic acid internally, to combat the diabetes before operating, and mentions cases in support of such treatment.

Such cases force upon us the following questions: Is it permitted to operate upon a diabetic patient? Is it indicated to postpone an operation; and is it really of such importance that diabetes should be diagnosed before operating? In diabetes, cataract operations often succeed. But in most cases Verneuil disadvises operation, or insists on antidiabetic treatment prior to operating.

Other skin affections, such as eczema, pemphigus, etc., sometimes are caused by diabetes. In the diagnosis of diabetes in surgical cases, it must be borne in mind that fasting for a few days causes the sugar to disappear from the urine. Gangrene of the lung is regarded by Rager as a frequent termination of diabetes. This form of pulmonary gangrene is not mentioned by the latest German writers, although Griesinger spoke about it in 1859. Sudden death may occur in diabetes, and embarrass the surgeon. Serious hemorrhage also occasionally occurs, at times becoming uncontrollable, and is apparently a parenchymatous oozing. A case of diabetic gangrenous phlegmasia of the leg was incised on account of emphysema. A large number of odorless air bubbles exuded.

Could these have been carbonic acid, derived from the fermentation of saccharine serum in the areolar tissue?—
Chicago Medical Gazette.

Scarlet Fever.

BY DR. J. B. AYER.

MISS L., a bright girl of seven, from a very early age was known to have chronic enlargement of the tonsils, and was frequently subject to acute inflammation of the throat. The attacks of acute tonsillitis were sometimes severe, and caused dyspnœa.

In the fall of 1877 I prescribed inhalations with an atomizer, and applied a nitrate of silver solution to the throat, to the little patient's great relief. However, in the spring of 1878, so severe had the attacks of tonsillitis become, and so urgent the distress in breathing, I deemed it necessary to remove with the tonsillotome a large portion of the right tonsil, which had always been the more obstinately swollen. Although every precaution was practiced inflammation ensued, and during the week following the operation the dyspnœa was as severe as before. It subsided at the end of that time, and during the next eight months she had little throat trouble. Fifteen months ago the tonsils again began to inflame, the right somewhat more than the left. There was no improvement during the spring. In June I removed with the tonsillotome as much as possible of the left tonsil, and also as much of the uneven remnants of the right as the instrument could be made to bring away. There was no subsequent inflammation nor important throat symptoms up to the present illness.

December 16th last she complained of cold chills running down the back, but felt able to attend school. She woke the next morning feeling chilly. Her parents noticed that she was feverish, and that there was a slight redness of the neck and body, the color becoming more marked during the day. When I saw her (the same evening) the pulse was about 120, and the temperature 103° F. The tonsils were not swollen; there was moderate pharyngitis.

On the 18th the eruption had become more marked

upon the body, but did not appear upon the face; the disease very mild up to this time.

On the 19th the tonsils were found much swollen, and the respiration noisy, accompanied by dyspnœa, which was in part relieved by inhaling tr. iod. co. c. tr. opii camph. by the atomizer. There was marked hyperæsthesia; she invariably complained of pain when the thermometer was placed and held gently in the axilla.

On the 21st both tonsils were swollen and covered with patches of exudation, which seemed molded to the surface. They were brushed three times daily with an eight per cent. solution argent. nitrat., and large pieces of diphtheritic membrane were detached. There was severe laryngitis. The glands and subcutaneous tissues on both sides of the neck and below the jaw were greatly swollen, and growing hard and tense. She began to be delirious, talking much about her school, reciting her lessons, and frequently raising her hand to attract the teacher's attention.

On the 23d it was found that the diphtheritic symptoms had increased in severity, in spite of frequent inhalations. Dyspnœa was more marked; the face had a dusky appearance; air scarcely entered the lungs on account of obstruction of the throat; the parotids and other glands continued swollen and hard; coryza was present. It was feared that tracheotomy might be required.

On the 24th I brought away several foul pieces of diphtheritic membrane from the right tonsil (the one twice operated upon, and which from the beginning of the present attack had presented the more malignant appearance). On two occasions there were slight hemorrhages from the irritated tonsils.

Up to this time the temperature had ranged between 103° and 104° F., and the pulse between 120 and 140. The same evening (24th) she had two well-marked convulsions, each lasting a few seconds. Later in the evening she took nourishment, and seemed no worse.

On the next day (Christmas), the ninth day from the first appearance of the eruption, the redness had entirely left the body. The purulent nasal discharge persisted, and the tonsils were still inflamed, but the diphtheritic patches had disappeared, and there was less dyspnœa.

While the characteristic appearances of scarlet fever and the diphtheritic complication had yielded, I was sur-

prised to find the fever continue, and also many typhoid symptoms beginning to present themselves. The tongue became dry, was thickly coated, seemed too large for the mouth; there was sordes and tenacious mucus in the fauces, and the lips were swollen, dry and cracked. There was cerebral congestion requiring the constant use of cold-water dressings. She remained delirious, her mind still running upon her duties at school. For several days she lay in a state of stupor, from which, fortunately, she could be aroused to take nourishment.

From the ninth to the twenty-fourth day there was no decided break in the fever, and up to the twenty-eighth day her condition was not sufficiently assuring to warrant Dr. James Ayer (who saw her in consultation) or myself in pronouncing her out of danger.

From the ninth day the temperature was taken by a careful nurse; the fluctuations, which were very frequent in the course of twenty-four hours, are well shown by the chart. It will be seen that the highest temperature ranged between one and ten P. M., the lowest between five and ten A. M. The pulse did not follow closely the temperature; it ranged between 104 and 140.

On the tenth, eleventh and twelfth days of the disease all the discharges from the bowels were involuntary, and the urine passed in bed. She lay in a state of stupor, from which she could always be roused with considerable difficulty.

During the twenty days of fever following the convulsions, every effort was made to keep up the little patient's strength, without causing too much annoyance. Half an ounce to two ounces of liquid nourishment were given at frequent intervals, and during two days only was there marked irritability of the stomach. Except upon these two days we succeeded in giving her every twenty-four hours twenty-four ounces of milk, the *juice* from a pound of beef, or *broth* from a pound of mutton, together with eight teaspoonfuls of brandy and six grains of quinine.

During this period the inflammation of the tonsils and the dyspnœa gradually diminished, and the laryngitis gave place to bronchial catarrh. The glandular swelling gradually disappeared under the use of flaxseed poultices. The tongue became again of its usual size, and the aphthous spots on the edges disappeared. There was

no kidney trouble from the outset, though at times little urine was passed.

On the thirty-fourth day she was lifted to a couch while the bed was made. On the forty-fifth day she sat up in an easy chair four hours, and was able to walk a few steps. At the end of the eighth week she could walk around the room several times, but became easily tired. She has made a full recovery.

The rise in temperature on the thirty-fifth day could not be explained, as there seemed to be steady improvement at that time.

On the forty-seventh day the branlike desquamation had not entirely disappeared from the soles of the feet. In the fifth and sixth weeks she suffered from rheumatic pain in the joints and spine. Deafness, which was marked during the first five weeks, steadily disappeared after that time without treatment. During convalescence and since, she has taken tart. ferri et potass. with cinchona.

Very briefly to recapitulate, the little patient, after an incubation period of twenty-four hours, was taken down with an apparently mild form of scarlet fever; but on the third day the tonsils became swollen, and on the fifth and eighth days inclusive there were severe diphtheritic symptoms, with dyspnœa.

On the eighth day, after eruption had disappeared, and throat symptoms were nearly over, convulsions appeared, followed on the ninth day by typhoid symptoms, with stupor, involuntary evacuations and urine, the fever and a portion of the dangerous symptoms not entirely disappearing before the twenty-eighth day, and convalescence not being fully restored before the end of the eighth week.

I would call attention to the severe character of the diphtheritic complication in this case. West says, "Scarlet fever presents itself in one case so trifling as scarcely to interrupt a child's cheerfulness even for a day; in another it is so deadly that medicine is unable to stay its course even for a moment."

The larger portion of my cases have belonged to the mild type, the angina and eruption both having disappeared by the seventh day, and convalescence being complete ten days after the eruption was at the height. My principal duty in attending these cases was to be on the lookout for deafness or renal complication.

On the other hand I have seen four malignant cases, in

all of which there was great dyspnœa. One of these was a boy, three years old, who died on the third or fourth day of the disease of diphtheritic tonsillitis, the eruption at the time of death being at its height. The other three cases occurred in the same house. First, a girl, two and a half years old, was taken ill. On the second day she was removed from the basement to the attic, and there died on the fourth day. The eruption covered the face and body at the time of death. The next victim was one and one-half years old, and lived on the second story. She was said to have kissed the first child when dying, and was taken ill fourteen days later. She died on the fourteenth day of the disease, the eruption not having entirely disappeared. The third patient was four years old, and lived on the third floor. She was taken ill at least thirteen days after the last-mentioned patient, and died on the seventeenth day. They all had great dyspnœa from severe tonsillitis, which was probably diphtheritic in character.

The cerebral symptoms accompanying scarlet fever are worthy of close attention. Malignant cases of scarlet fever, showing from the outset high fever, cephalalgia and delirium, passing rapidly into coma, and proving fatal in two or three days, are not uncommon; but cases like the one reported, in which the disease was in the beginning mild in character, but gradually developed delirium, convulsions, typhoid-like symptoms and stupor, are rare, and seldom end in recovery.

J. Lewis Smith says, "I have never seen nor heard of any case which recovered when convulsions occurred after the complete development of the eruption."

Rilliet and Barthez state that they have seen recoveries in cases where the intelligence of the patient has been very much disordered; but of those who, during the first fifteen days of scarlet fever, were taken with convulsions, convulsive movements, contractions, in a word, any symptom affecting the locomotor apparatus, all, without exception, died. Such prognosis, according to Gee (Reynold's system of medicine), is too unfavorable, although the symptoms have grave significance.

Meigs and Pepper state early convulsions generally indicate a fatal attack, and that prolonged delirium and persistent elevation of temperature are very unfavorable symptoms. "Typhoid scarlatina" is the name given to

cases of scarlet fever where the febrile symptoms persist, and are accompanied by headache, delirium, thirst, and dryness of the tongue, the local lesions of the disease becoming subordinate.

Pasteur's New Researches—Chicken Cholera, Vaccination, the Sleepy Disease, Furuncles and Puerperal Fever.

[Translated for the Clinical Record.]

PASTEUR'S works have begun to leave the domain of animal experimentation to reach human pathology, and if he has not yet attained certainty in the conclusions to be drawn therefrom, yet we may say nevertheless, that here are horizons altogether new opened to general pathology. Again and again, for a month past, he has filled the meetings of the Academy. He has given the chief interest to the meetings. If sometimes he goes a little out of the way of medicine, strictly speaking, it matters very little. As regards details, it should not be forgotten that he is not a physician. We are of those who think, that in place of criticising him for some erroneous medical terms, we should rather marvel to see a stranger to medical science direct his course so easily through the mazes of general pathology and with so few accidents.

Returning to the study of chicken cholera, Pasteur has explained how, with a virus weakened by certain processes, which he still keeps secret, he produces a true vaccination against the cholera of fowls, which, inoculated upon unaffected birds, only renders them slightly sick and preserves them from all possibility of contracting this disease either by inoculation or direct contagion. The economy of the fowl becomes exhausted, sterile, so far as the cholera organism is concerned. It seems that the microbion has consumed, in the economy of this fowl, everything that was suitable for its sustenance. Something analogous, also, seems to occur in the experimental vase, for if the chicken soup in which the parasite has fully developed be filtered, it is proved that the liquid is no longer suited to the development of the parasite, which has, doubtless, consumed everything in it which might give it nourishment.

Something has been produced in this liquid, for if it be

filtered, freed from the parasites developed in it, and concentrated before injecting a fowl with it, the latter contracts no cholera from the injection, but it will be taken for some hours with sleepiness analogous to that which characterizes the cholera, then it awakes without further ill effects. Pasteur thinks that, during the development of the microbion, there is formed a narcotic or stupefying agent which produces this symptom so pronounced in chicken cholera. He also thinks that death is due to the want of oxygen on the part of the air-consuming (*aerobie*) microbion which take it from the blood globules and determine a true asphyxia.

A naval physician, M. Talmy, guided by this theory of somnolence, has thought of establishing a relation between "the sleepy disease" and the development in man of the parasite of chicken cholera.

The sleepy disease observed among the negroes, of the African coast, is characterized by a single symptom, irresistible sleep, invariably terminating in death. In a certain number of cases swelling of the glands of the neck is observed, and these are extirpated to cure the disease, which is habitually of long duration—several months, sometimes more than a year.

In a note to the Academy of Sciences, M. Talmy recalls the fact that, according to Dr. Corre's observations, it is not uncommon, in Senegambia, to see farmyard animals die in convulsions, and that there even the sleepy disease is attributed to the patients having eaten of big-necked chickens or of fish having swollen gills. The question arises, if the sleepy disease is not an infectious malady due to injection of infected food consisting in part of the imperfectly cooked flesh of infected fowls? This connection is legitimate, no doubt, but it only serves to open the way to new researches.*

In a second communication, Pasteur has carried his experiments into the territory of human pathology, by the extension of his germ theory to the etiology of some common diseases. He has taken pus from unopened furuncles and has always found a parasite in their interior, which he has cultivated like the other organisms. By inoculating Guinea pigs with these he has produced local

*For a good account of the "Sleep-Disease," see Hammond's "Sleep and its Derangements," p. 289, Philadelphia, 1869.

abscesses. He thinks that if the blood of a man affected with the furunculous diathesis should be studied sufficiently the parasite would always be found therein, but it probably exists in the blood in small numbers, hence a great number of specimens would have to be examined before finding it. He has found an organism in every way similar in the pus of an abscess in osteomyelitis.

Concerning puerperal fever, Pasteur has found a microscopic organism in the lochia of women affected with this disease. These organisms are not found in the blood during the first days of the disease, but they are met with there shortly before death. This organism, cultivated and inoculated upon animals, proved pyogenic to an extreme degree. In puerperal women, in fatal diseases, Pasteur has met with another embryo. In a series of cases he has sought to determine the part taken by each of these in the disease and in the death. The uterine mucous membrane is a soil always ready for the sowing of these germs which are to be found everywhere, even in ordinary water.

He has made a remarkable observation upon the lochial discharges of a woman upon whom Dr. Lucas-Championniere had performed embryotomy under exceptionally grave circumstances. She offered no form of organisms, hence she recovered rapidly without accident. In concluding he warmly commended the use of boracic acid as an excellent antiseptic.

Pasteur's third paper was certain to raise a breeze in the Academy. M. Broca, with regard to the report on vaccination, cited a series of facts tending to show that the aptitude to contract small-pox decreased in populations among which vaccination is in use. The change in organic susceptibility is transmitted in a certain degree to the progeny.

Pasteur proposed to study an analogous fact in chicken cholera, as he is able to observe to what degree the susceptibility to contract cholera is retained in a succession of generations. He added that he hoped to see the beginning of a scientific demonstration of the identity of vaccinia and variola, which has been so much discussed. He thought that this fact in general pathology which permits the attenuation of a virus, making of it a preservative only, will give us an understanding of this attenuation of the variolous virus passing from man to animals.

M. Jules Guerin declared strongly that science had long ago declared that this identity was certainly established. M. Blot wished Pasteur had studied the old debates in the Academy and seen how this proof had been set forth, and finally, M. Depaul did not wish to hear about experiments and retorts; medicine finds sufficient in itself by clinical studies that are despised by some, and it is of no value to him, even if it be demonstrated that Pasteur's inoculated animals have really chicken cholera and do not die of something else.

Pasteur has recommenced his demonstration on chicken cholera and has had no trouble in showing that his proofs are indisputable. In what concerns small-pox he has merely wished to open the way, to show how a *demonstration* may be reached experimentally of the identity of variola with vaccinia, which he himself considers as probable, but which has not been heretofore shown so clearly as to prevent many authors from still combating its reality.

However brief our analysis may be, it will be seen that each new communication of Pasteur offers a wide field to practice. We are extremely anxious to point them out, while we are without power to sufficiently develop them, and attempt to give an idea of their high importance in pathology and therapeutics.—*Journal de Med. et de Chir. pratiques*, June, 1880.

Precocious Syphilitic Nervous Affections.

It is a generally received opinion that the most serious manifestations of syphilis, like those affecting the viscera, are always the result of an infection of remote date. Nevertheless, in a work on early syphilitic affections of the osseous system, M. Mauriac has already set himself against this idea and has proved clinically that the infection of the economy by the morbid poison is general and simultaneous from the very outset of the constitutional disease; the same demonstration has been given by the learned physician of the hospital du Midi relative to the precocious determinations of syphilis toward the nervous centers.

M. Mauriac calls all these cerebro-spinal syphiloses *precocious* which are developed during the virulent period

of the disease—during the first two or three years. Now, statistics show that these symptoms may occur very frequently in the first year following infection, sometimes even in the first month. This complication appears to be even more frequent in this first period than in the two following years. Thus, among one hundred and sixty-eight cerebro-spinal syphiloses, taken by chance, there were only thirty-two of them in the second and third years inclusive, while from the second to the twelfth month fifty-three of them were developed. The other cases were distributed between four and forty-eight years.

As regards the etiology, nothing has been noticed which could cause one to suppose that the syphilis was to act upon the nervous system; we have even been struck in many of these cases with the benign character of the primitive symptoms. But M. Mauriac insists upon this point, that persistent and prolonged headaches and sleeplessness, added to sudden and pronounced enfeeblement of the memory, as well as a diminution or complete loss of sexual power, are symptoms which certainly denote that the nervous centers, and particularly the brain, are the seats of grave morbid processes.

These early determinations toward the nervous centers are fully as formidable as those which belong to the most remote stages of the disease; they are presented under very numerous aspects, but, nevertheless, there are certain symptomatic categories which seem to predominate. Most frequently they consist of an attack of hemiplegia comprising an entire half of the body, especially right hemiplegia with aphasia; this predominance is such that we may say, that among individuals whose nervous centers are to be attacked by recent syphilis, hemiplegia, with or without aphasia, is most to be feared. Aside from these forms are to be observed the convulsive or epileptic variety, partial paralysis, etc.; but in all these cases the special point to note is, that the psychical disturbances and inco-ordination of movement are never systematized as in insanity, general paresis and locomotor ataxy, and that this absence of systematization has great importance in a diagnostic point of view.

Those morbid determinations, localized in the brain or cord, the latter of which is much more uncommon, appear to be due to two different kinds of lesions which it will be useful to be able to discriminate in relation to the

prognosis: these are, on the one side, syphilitic changes in the arteries which lead to disturbances in the circulation and eventually to softening; on the other hand, to gummy products situated in the meninges or to neuralgia. In the first-named lesions treatment has little or no effect, while in the second, on the contrary, much effect may be expected. However this may be, M. Mauriac advises that, as soon as we perceive in a syphilitic case the first appearance of any one of the prodromata which indicate the invasion of nervous symptoms at any period of the disease, we should make all haste to prevent and oppose the tendency. The iodide of potassium should be given immediately in high doses. If the patient is already using it, the quantity should be increased.

This medicament, so precious in the treatment of syphilis and so efficacious against a great number of its manifestations, does not always produce the marvelous results expected of it when we have to deal with cerebro-spinal syphiloses.

The same may be said of mercury, but as it is indisputable that mercurial preparations have produced marked amelioration and even cure in many cases, it is useful to employ it in conjunction with the iodide.

To act with the utmost rapidity upon the syphilitic lesions in those cases in which it is of the highest importance to effect their removal, we have recourse to inunctions.

The iodide in large doses and mercurial inunctions are, then, the two most active agents in the treatment of the cerebro-spinal syphiloses. But it is not necessary to keep up the administration for too long a time continuously. It is better to interrupt the treatment at intervals of fifteen or twenty days, to be resumed after a time. This method, which allows the organism time to rest and prevents tolerance, appears to give better results than the contrary method. After all, general rules are not sufficient, circumstances should govern the physician in each case. The treatment of early cerebro-spinal syphilitic manifestations is the same as that for those which appear later.

The age of these affections is the source of no special indication; as the early are as dangerous as the later symptoms, the treatment should be not less powerful nor less in duration.—*St. Louis Clinical Record.*

Pathology of Croup and Diphtheria.

BY ALBERT S. ADLER, M. D., SAN FRANCISCO.

[Read before the San Francisco Medical Society, June, 1880.]

By kind request of our President I will endeavor to detail to-night the difference of both diseases in regard to their pathology. As I may state at the beginning, I agree with those who recognize the individuality of each. Nearly all the German authors, including Virchow, Orth, Billroth, Rindfleisch, Klebs, etc., define croup as a fibrinous exudation which coagulates on the surface of the mucous membrane by contact with the air. Fibrine is the only albuminoid body, except caseine, that coagulates without our aid. It swells up by the addition of acetic acid, in which respect it differs from the mucus secreted in laryngitis, which coagulates by the addition of the above mentioned acid. This pseudo-membrane can be easily removed, presenting beneath it the smooth, glistening mucous membrane of normal consistency without any loss of substance except the epithelium, which dies by molecular necrosis beneath the fibrous membrane. On microscopic examination of a section of the membrane a cellular infiltration is observed; the cells which are always present are imbedded between delicate fibers. Rindfleisch says that the membrane has an exquisite stratified structure, a layer of cells follows a layer of fibrine in very regular intervals. This takes place 1-10 times, according to the thickness of the membrane. A homogeneous layer of fibrine is said to be situated immediately upon the mucous membrane; this layer separates the pseudo-membrane, which is, as above stated, rich in cells from the intact mucous membrane, and which in swelling up occasions the loosening of the pseudo-membrane, and this attaches itself to the larynx, and forms a tubular cast of that organ. The pseudo-membrane is of a grayish-white color, of the thickness of one-half millimeter. The disease generally commences first in the larynx, and may ascend into the pharynx (ascending croup) or (that seldom takes place) may attack first the pharynx. Even it may continue into the bronchi. This pseudo-membrane adheres frequently more firmly to one part of the larynx than to the other, and it does so with preference on the two vocal cords and the epiglottis,

because, according to Rindfleisch, the upper and lower surface of the epiglottis and the true vocal cords possess a concentric pavement epithelium, which is not separated by a homogeneous layer of connective tissue.

Croupous processes may be found in other organs of the body, especially the lung, as in croupous pneumonia, the most common form of pneumonia, where the exudation containing fibrine in large quantities is also present upon the surface of the alveoli. Croup is an asthenic non-contagious disease, occurring most frequently in children at the ages of two to seven years. Catarrh and diphtheria may complicate it. I shall allude to it again later on. Clinically closely related to croup is diphtheria. This is an asthenic, very frequent, and infectious, disease, occurring most in epidemic forms in childhood. In former times it was regarded as a constitutional disease, to which the throat affections were only the secondary symptoms; in other words, that the system was permeated by a certain kind of poison. According to Trendelenburg (Langenbeck's Arch. f. Klin. Chirurg., vol. 2), it is a contagious, infectious disease, which presents itself first locally; it may remain so or produce secondary constitutional symptoms. Of the experiments by which he employed inoculation, only in a small number of cases constitutional diseases appeared first, and the local affections of the fauces were the secondary phenomena produced. To the last belong those cases in which fever had been pre-existing a number of days before the outbreak of the local trouble; the fever is very high, whilst the local disease is very mild. Oertel has also experimented in this direction to prove the local disease as the primary. He further directs our attention to physicians who have died while performing their duty, by a small wound coming in contact with the diphtheritic membrane, and then fell a victim to this disease. He has proven, on a great number of animals, that it appeared first as a local affection, which "adheres first on an attacked spot, and spreads from thence, radiating over the whole body, until it causes finally death of the organism." In this croup differs from diphtheria, as it always remains local.

Diphtheria may even cause an exudation of fibrine, with inflammation of the mucous membrane. This means croup, which, according to Verdell, may be produced by different influences, as that of the atmosphere, chemical

irritations. Cohnheim (Allg. Pathol) produced genuine croup by caustics, for instance by ammonia, nitric and acetic acid, and alcohol. Something similar can be seen in the mouth, pharynx, etc., by poisoning with sulphuric or nitric acid. Three forms of diphtheria are described. First, the catarrhal, when the mucous membrane is inflamed, and upon it, in short spaces, small grayish-white membrane-like spots are discovered; they may appear long or round and can be easily removed, showing then that the surface below it is unchanged. If you make, in this form of diphtheria, fine microscopical sections, and by the addition of a weak solution of liquor potassæ make it transparent, you will observe that it consists of nothing else but pavement epithelium of the mucous membrane, which is changed more or less; particularly in the depth of the mucous membrane, great number of these are either changed, divided or degenerated, which may be connected together into a kind of a network, which is filled with an opaque granular substance until nothing more remains except a fine granular mass, in which you are able to notice still some of the cells. As the normal cell contains yet its contents or protoplasm and the nucleus, it can be easily distinguished from these disintegrated cells of epithelium, which are more opaque and studded with very fine spots or granules. These granules are recognized as the lowest development of organic origin, perhaps belonging to the class of algæ of plants called micrococci.

A second form exists where you may also see in different parts of the pharynx the same grayish-white spots; but now they adhere more firmly to the tissues situated beneath them, the surface of which is ulcerated to a great extent. If you try to remove the spots it occasions pain and sometimes slight bleeding, and then it may only pull off by piecemeal. Placed under microscopic observance, the small globules or granules of micrococci which are of the same size and sharply defined are noted lying close to one another, as if they were only one mass. The mucous membrane afflicted with diphtheria degenerates very rapidly and produces gangrene with a very bad smell; this can be regarded as a third form. Paralysis occurs often after diphtheria, and it is still a question whether it is the result of it directly or not, as paralysis is noted after typhoid fever, small-pox and in the puerperal state when

the mucous membrane of the genital organs is affected; paralysis of the bladder also occurs when the mucous membrane of the urinary tract is afflicted (SENATOR).

Are the micrococci found in every diphtheritic mucous membrane the essential cause of this disease? A great number of authors differ in this respect; one holding it for the cause, others for the exciter of the neurosis. Nordsdorf, who had also been inoculating animals with the diphtheritic membrane containing micrococci, comes to the conclusion that these organisms proliferate in the epithelium before any change can be detected with the naked eye. The lymphatics and blood channels are constantly filled with them; they may be found in cartilage, bone or in muscles, and lead finally to a granular degeneration of these tissues. Oertel, above stated, inoculated animals also, and found that the micrococci enter the young cells of the exudation, causing a gradual degeneration of the same. They penetrate the urinary canal and the different structures of the kidney, thus bringing on a parenchymatous nephritis; this being the explanation of albumen in the urine in this disease.

Clinically, croup and diphtheria may appear the same. But the microscope is here our only means of differential diagnosis. It should be employed in every case, whether it is doubtful or not, and I believe all of you then will find the individuality of each.—*Western Lancet*.

MICROSCOPY.

The Diseases Caused by Bacteria.

IN considering the diseases said to be caused by bacteria, it will be well to present first those about which there is the least doubt, in order that the controverted points may be the more easily understood.

The disease the parasitic origin of which is best established was also the first to be discovered. This disease occurs chiefly among animals, and is known under the name of gangrene of the spleen—charbon, *Fr.*, milzbrand, *Ger.* It, however, is capable of being communicated to men, and has received the name of malignant pustule. It was first mentioned by Devaine in 1850, and the follow-

ing is the description of the microscopic appearances of the blood: "The corpuscles, instead of remaining distinct, generally glue themselves together into irregular masses; besides, there were present small filiform bodies having about twice the diameter of a blood corpuscle. These little bodies did not present any spontaneous movement." These few lines, written thirty years ago, are the starting-point of what must be considered one of the most important questions of the day, with the right solution of which the welfare of all is most closely united.

Kock traced the development of these little bodies, which belong to the genus bacillus and are called bacillus anthracis. He found that when a small quantity of material containing bacilli was injected into a mouse there was in a short time a great increase of these elements; and, after growing to a certain length, they began to divide. He therefore concluded that the bacillus was capable of development within the blood and tissues of living animals in the same manner as other bacteria without the body.

In order to follow the changes closely, a small drop containing bacilli was placed in a little blood serum or humor aqueus and kept in a warm chamber freely supplied with air. Placed under the microscope, the development of a single thread could thus be observed. It was seen first of all to increase to many times its original length. Then it became finely granular in appearance, and in places appeared small, strongly refracting particles at regular intervals. These further developed into somewhat oval, strongly refracting bodies, imbedded in the substance of the thread, and making the field of the microscope look as if covered with chains of pearls.

If now a drop of fluid, which, under the microscope, showed nothing but spores, was allowed to dry quickly, care being taken to prevent the admixture of foreign matter which might contain the spores of other bacteria, and reserved for several hours or days, and then placed in a suitable breeding fluid (previously sterilized), and kept at a constant temperature of 35° C., the following changes were seen. After one-half hour the substance lying between the spores disappeared; after three-quarters of an hour the spores began to increase in size, and then developed in the following manner: each egg-shaped spore became surrounded by a clear, glasslike mass; this

increased at one point in the direction of the long axis of the spore, until it assumed a long, oval form, with the spore remaining at one end of the cylindrical body. The spore then began to lose luster, quickly became pale, fell to pieces, and finally disappeared. With this the circle of changes in the development of bacillus anthracis is ended.

From this it is seen that the spores of the bacillus anthracis under certain conditions (constant uniform temperature, proper food, and free access of air) develop directly into the bacilli originally found in the blood.

The temperature between which the production of spores was possible varied between 18°C. and 40°C. , but the point at which they attained their quickest growth was about 35°C.

Further experiments showed that substances containing only the bacillus *threads* retained their inoculability, when dried, from a few days to several weeks, the length of time depending upon the amount of the substance dried.

Substances containing *spores*, on the other hand, even when thoroughly dried at ordinary temperature, retained their virulence for years unimpaired.

An experiment to prove the necessity of oxygen for the proper development of the spores consisted in placing a little fluid containing bacilli in a watch-glass exposed to the air. Bacteria and micrococci were developed with putrefactive changes, but at the same time the bacillus produced its spores. If, however, the substance was placed in a closed glass tube or cell to which a free entrance of air (oxygen) is not permitted, the bacilli do not grow, but gradually undergo degeneration, while the bacteria and micrococci thrive luxuriantly, and putrefaction takes place.

To prove that the virulent properties were inseparably connected with the bacillus, fluid containing spores was allowed to stand quietly in a tall vessel, when it was found that the different layers of the fluid were capable of producing the disease in direct proportion to the number of spores they contained as shown by the microscope. Pasteur carried this a step further, and filtered the fluid through plaster of Paris, through which the bacilli were unable to pass. He found that the filtrate only had the property of causing the blood corpuscles to agglutinate

at the point of application, while the filtrant (containing bacilli) was infectious in the extreme. Pasteur has also succeeded in cultivating the bacillus through twelve generations in a purely mineral fluid (by successively taking a single drop of the preceding for a new cultivation, thus making the amount of original substance used a vanishing quantity in the last generation), and the last generation was as effective in producing the disease as the direct inoculation.

The Microscope in Milk-sickness.

ARMED with a few clean vials I started out on my collecting tour. The house where there had been two deaths still had one sufferer from the disease—a young lady. As the medical gentlemen in charge of the case were my intimate friends I did not hesitate to ask for a few drops of blood from the arm of the young lady. She was willing I should have it, but some of her friends, being under the impression that the Government had offered a large reward for the discovery of the cause of milk-sickness, I was, after some parleying, refused the privilege of getting the blood, for fear I might make something by it, and to clinch the matter, a neighboring man, who ought to be embalmed as the champion fool of the nineteenth century, oracularly asserted that three drops of blood taken from her would, without fail, kill her. However, I went to the spring—a stagnant pool from which the family used water—and took a vial of that. I then went to a farm near by where a heifer had an undoubtedly well-marked case of the slows, and got some blood from her ear and hastened to my quarters at the Kaolin mine, to examine it. Perhaps it is as well for me to say here that the heifer died two days later. The blood flowed from the cut with difficulty. It was of the most intense scarlet. On submitting the blood on a slip and covering with a thin cover-glass to a Spencer 1-10 objective, I was startled but not surprised to see that in the small space embraced in the field, and which could be covered by a transverse section of a fine cambric needle, there were countless multitudes of actively moving, writhing, twisting bacteria, that bore in size and behavior a striking resemblance to that form of bacteria called by naturalists *bacilla sub-*

tilissima. They seemed to cling to the blood disks, to be between them, and to be in such an innumerable multitude as to fairly fill the observer with horror at the bare thought that the blood of even a domestic animal should have such terrible inmates. Not only I, but numbers of others saw them, and seeing were convinced. But further, some dogs ate of the dead cow, and they, too, were attacked by the slows, and, in brief, their blood also showed the same forms of bacteria. Knowing that some of the family attacked had not eaten of milk or butter, but had still suffered from the disease, and wanting a reason for it, I subjected the water obtained from the spring to a like process and found that, though it appeared clear and nice to the unaided vision, it was as full of the same forms of bacteria as appeared in the blood, as was the blood itself.—*Walsh's Retrospect*.

Microscopic Objects.

WE have recently received a price catalogue from an eminent maker of London. As it will probably interest some of our readers to quote the prices of some of the objects, we copy from it as follows:

“Typen Platte of fifty Foraminifera, single species, mounted opaque, and numbered, with a reference catalogue, 21 shillings.

“*Microscopic Engravings by W. Webb*.—The Lord's Prayer, 227 letters, engraved on a scale equal to that of writing the whole Bible and Testament in square inch, 10 shillings. The same on a scale equal to writing the whole Bible five times in 1 square inch, 20 shillings. The same twenty times to the square inch, 70 shillings.”

The typen plattes of J. D. Moller are magnificent mountings of diatoms, and every microscopist should have more or less of them. No. 1 contains 500 diatoms on one slide, £4. No. 2 has 150 diatoms, 25 shillings. Price of test platte of diatoms and catalogue mounted dry, 20 shillings; mounted in balsam, 14 shillings. Every one having good lenses should have a test platte.

These can be easily procured from London by sending money by an international post-office money order and having slides returned by mail. The postage on a single slide is five cents, and sufficient to prepay postage should

be included in the post-office money order. It is safest to have the package registered in the London post-office. The cost of that we believe is about 20 cents. We have had many packages sent us by mail from Europe and never lost one.—ED. MED. NEWS.

Mr. E. Gundlach.

THIS distinguished maker of microscopic lenses is still at Rochester, N. Y., and engaged at his business. We understand that he is making better work than ever. The microscopists of this country should extend to him a liberal patronage, for they are largely indebted to him for the opportunity to obtain first-class objectives at a low price. Previous to his coming to this country from Germany fine lenses were of so high a price that, unless a microscopist was really well off, he had to content himself with the miserable cheap French glasses. But now excellent glasses, good enough for all practical purposes, can be had at a price but little in excess of French triplets. We hope that microscopists, after having been so favored by Mr. G., will not lose sight of him, and, when they want lenses of a high quality, give their orders to others, who make no better work, but do a great deal of boasting. We hope soon to be able to report the powers of an objective made by him of the high angle of 180° .

The Microscopists' Annual for 1879

Is the title of a little book of some fifty pages, containing tables, formulæ, and memoranda. It has a list of microscopical societies in the United States and England, with officers; directory of the prominent microscope makers, dealers and importers, in America and Europe, etc. It is published by the Industrial Publication Co., 14 Dey Street, New York. It will be found a very convenient little work for reference. Having, however, been gotten up in some hurry, it has some errors. For instance, the Memphis Microscopical Society is mentioned as in existence, Dr. S. P. Cutler, President; Mr. A. F. Dod, Secretary. The Society has long ago ceased to exist. Mr. Dod died two years ago of yellow fever, and Dr. S. P. Cutler succumbed to a mortal disease last winter, we be-

lieve. But still it has enough information that can not easily be had from other sources to make it worth several times its price to all interested in microscopy. Price, 25 cents.

GLEANINGS.

BY CHAS. A. L. REED, M. D., HAMILTON, OHIO.

HYDROBROMIC ETHER.—Dr. David Prince, of Jacksonville, Ill. (St. Louis *Medical and Surgical Journal*), has found hydrobromic ether much less satisfactory than either chloroform or ether, as he finds that it is more oppressive to breathing and cardiac action, and is followed by more unpleasant after symptoms than either the other anæsthetics. He cites a case from the New York *Medical Record*, in which bromine poisoning occurred in a patient who had been an hour and forty minutes under hydrobromic ether.

A NEW OPERATION FOR PILES.—Dr. George Pollock, of St. George's Hospital, London, treats hemorrhoids by a process which he calls crushing. His method consists in drawing down the tumor in the usual way, and seizing it suddenly and forcibly at its base by a clamp or pinchers, provided with broad-surfaced jaws. He claims that it is much less painful than the old methods of ligature or excision, and that it is, in other particulars, a more desirable and successful operation.

GLYCERINE FOR DYSPEPSIA.—Dr. Sydney Ringer has successfully used glycerine as a remedy for dyspepsia, flatulence and pyrosis. He gives a drachm dose before, during or immediately after eating. It cures acid dyspepsia by preventing the decomposition and the fermentation of the offending articles of food. To prevent the formation of wind in the colon requires a larger dose when it sometimes acts as a laxative. It may be given in tea, coffee or lemonade, instead of sugar.

AN IMPROVED OPERATION FOR HERNIÆ.—Jos. H. Warren, of Boston, in a late number of the St. Louis *Medical and Surgical Journal*, describes his improvement on Dr. Heaton's operation of injecting hernial rings with fluid extract of white oak bark (*quercus alba*) for the radical

cure of herniæ. His improvement consists chiefly in a syringe, differing from an ordinary hypodermic syringe in that its contents are ejected through the action of a spring, arranged within the barrel and around the piston, the evacuation of the contents being regulated by a stop-cock, operated by a thumb-spring. The needles are flat and twisted. The patient, with head lower than the heels, is placed upon a table, padded to fit the curvature of the spine. The hernia, either umbilical, femoral or inguinal, is first reduced. The needle is then carried beneath the integument at the lower margin of the ring, and, gradually and by rotary motion, is carried upward and backward into the ring, care being taken that none of the important tissues, spermatic cord, etc., are punctured by it. The contents of the syringe is gradually let loose, both while the needle is going in and coming out. Pressure over the ring should be applied immediately after the withdrawal of the needle, and the patient should be kept upon his back until adhesive inflammation closes the ring and cures the hernia.

ERYTROPHELINE.—A NEW CARDIAC SEDATIVE.—Erytrophleine, an alkaloid, extracted from the *Erytrophleum Guineense* (sassy bark), was first discovered in 1876 by MM. Gallois and Hardy, at whose suggestion MM. Lee and Bockefontaine have since experimented with it upon the lower animals, more particularly frogs, rabbits and dogs. The results of their experiments have recently been laid before the Paris Academy, and may be summarized as follows:

Erytrophleine, administered hypodermically, manifests its toxic effects by first producing restlessness, followed by a period of weakness, and this by vomiting or efforts at vomiting, which, if the dose of the poison is not too large, may cease, and the animal quickly return to its normal condition. When the dose is larger, the effects, without reference to the order of their sequence, are as follows:

1. *The heart*, at first accelerated in its action, is irregular from the start, and, finally, becomes retarded. The lessened frequency of the heart's beats is not accompanied by a corresponding diminution in the force of its impulses. This is followed by a sudden increase in frequency and feebleness of the pulse, the action of the heart becoming weaker

and weaker, ceasing, from time to time, until it is permanently arrested. 2. *The respiratory movements* are influenced by the drug both directly, and, secondarily, by its action on the circulation. At first they are slightly slower and deeper than normal, until the heart's action become accelerated, when the respirations are frequent and extremely energetic, in some instances continuing for a minute or two after final cessation of cardiac action. 3. *The pneumogastric* is so affected by the poison that it does not give the usual responses to faradization when applied either to its central extremities or to its peripheral portions. The remedy, in its therapeutical sphere, will probably occupy a place alongside of digitalin.

BOOK NOTICES.

A SYSTEM OF MEDICINE. Edited by J. Russell Reynolds, M. D., F. R. S., F. R. C. P., London, etc. With Numerous Additions and Illustrations, by Hartsborne, A. M., M. D. In three volumes. Volume III., Diseases of the Digestive, Blood, Glandular, Urinary, Reproductive and Cutaneous Systems. Royal octavo. Pp. 990. Philadelphia: Henry C. Lea's Sons. Price, \$6.00.

This, the third volume, completes the publication of this very magnificent work.

We regard this the finest work on the practice of medicine in the English language. In fact, we do not think that it has its superior in any language in the world. Combining, as it does, a complete history of diseases, a thorough account of their pathology, a full description of therapeutics, and a minute detail of treatment, etc., it embodies all that a practitioner can wish. Although edited by Dr. Reynolds, it is not the work of one mind, but collaborated by many, and those the leading minds of the profession of Great Britain—each subject being treated by some gentleman who is regarded as its highest authority. Thus, Affections of the Larynx are treated by Morill MacKenzie; Renal Affections, by Wm. Roberts; Malpositions of the Uterus, by Graily Hewitt; Diseases of the Spine, by Chas. B. Radcliffe; Diseases of the Stomach, by Wilson Fox; Intestinal Diseases, by John Syer Bristowe; Apoplexy, by J. Hughlings Jackson; Angina Pec-

toris, by Prof. Gairdner, etc., etc. Each affection having had the attention of some one who has distinguished himself in its study, certainly it is more ably and satisfactorily treated than if all had been collaborated by one person. A specialist is more apt to be posted in a disease to which he gives special attention, to be abreast of present knowledge, and to exhibit it in its most advanced progress. From the journal literature of the day he is more qualified to compile, selecting better, as regards his specialty, what will endure the test of experience, than one who has given one disease no more attention than he has any other.

The three volumes contain in all about 3,000 closely printed double-columned pages, with numerous illustrations. The English edition is in five volumes, and higher priced. The American edition is much the preferable. The paper is of the very best quality, while the type is very clear and beautiful, and easily read.

We would certainly consider no physician's library complete without this fine work. It is really a library in itself, containing, as it does, such a vast amount of information. It is sold by subscription only. The price, per volume, is, in cloth, \$5; in leather, \$6.

We should have noticed this the third and last volume two months ago or more, but the publishers, having forwarded our copy on to the agent in Cincinnati, that individual laid it aside in his office instead of sending it to us. We hope he will be more prompt in supplying subscribers, for we do not suppose that any of them would care about being kept several months without the book after they had subscribed.

THE PRACTITIONER'S HAND-BOOK OF TREATMENT; or, The Principles of Therapeutics. By J. Milner Fothergill, M. D., F. R. C. P., London, Assistant Physician to the City of London Hospital for Diseases of the Chest, etc. Second American, from the second English edition, enlarged. 8vo. Pp. 647. Philadelphia: Henry C. Lea's Sons. Cincinnati: R. Clarke & Co. Price, \$4.00.

We noticed the first edition of this excellent work when it appeared. A second edition is now called for, showing that it has met with the success of which its very great merits make it worthy. It is a work that should be

in the hands of every medical student, and constantly studied by him, unfolding, as it does, the principles of medicine, and explaining the "whys and wherefores" of everything pertaining to the treatment of disease. It is calculated to elevate medicine from the position of a mere empirical art by which remedies are administered according to rule from often accidental observations of their effects, without any *a priori* reasoning, to that of a science wherein the causes of disease being known, the action of medicines in health and disease recognized, vital force acquainted with, the influence of constitution ascertained, etc., a rational and scientific treatment is the result—a treatment founded upon a course of reasoning.

The London *Medical Record* has very correctly said that "a work of this kind has long been urgently wanted. It gives the student the broad lines upon which he must proceed in his therapeutic efforts." It should, therefore, not be merely read, but studied—studied as a work upon mathematics is studied; for it teaches principles to be grasped and understood by the mind, and does not present merely facts to be laid up in the memory only.

Besides undergoing a revision in this edition, some additions have been made to the matter as, "When Not to Give Iron," "The Functional Disturbances of the Liver," "The Means of Acting on the Respiratory Nerve Centers," "The Reflex Consequences of Ovarian Irritation," and "Artificial Digestion," which will undoubtedly add to the value of the work.

LESSONS IN GYNECOLOGY. By William Goodell, A. M., M. D., Professor of Clinical Gynecology in the University of Pennsylvania. With 92 illustrations. 8vo. Pp. 454. Philadelphia: D. G. Brinton. Cincinnati: R. Clarke & Co. Price, \$4.00.

This work has met with a success unprecedented with medical works. Not more than about six months ago the first edition was published, now a second edition is issued. A medical author can usually congratulate himself if his book meets with such a sale that another edition will be called after several years. Indeed, a great many would regard it as a "star in their hat" if a second should ever be demanded.

The author disclaims that the work is a treatise upon the diseases of women, but states that it is "mainly the

outcome of clinical and of didactic lectures delivered to the advanced students of the medical department of the University of Pennsylvania." But whether strictly a treatise or not, it covers the field of female affections very satisfactorily, and leads the student of its pages to feel that it fulfills his wants much better than the large majority of gynecological works—its teachings being plain and easily comprehended and embracing as wide a field of diseases of woman as the general practitioner usually meets with. It is not a volume of discussions, the intricate mazes of which, filled with quotations from French and German writers, interspersed with untranslated sentences to exhibit the writer's learning and research, puzzle the mind of the student and cause him to suspect his own intelligence in consequence of his failing to get any understanding of what he is reading about. Not only the student, but the physician, will find this a very valuable work, rendering him great aid in the treatment of female disorders.

In the present edition each lesson has been carefully revised, and has been enlarged by fresh matter. Four new lessons have been added, together with twelve more illustrations.

We very cordially recommend it to our friends as being one of the very best works in the department of gynecology.

NASO-PHARYNGEAL CATARRH. By Martin F. Coomes, M. D., Professor of Physiology, Ophthalmology and Otology, in the Kentucky School of Medicine. 8vo. Pp. 165. Louisville, Ky.: Bradley & Gilbert. Price, \$2.00.

This work will be found especially acceptable to those practitioners who practice medicine at a remote distance from large cities, where specialists flourish, and can not, therefore, relegate their patients suffering with diseases difficult and annoying to treat to a specialist, but are compelled to prescribe for them themselves. Like many affections of the ear and skin, not a few of the affections of the nose, throat and pharynx are exceedingly troublesome to the general practitioner, for the reason, oftentimes, that there seems to be so many other diseases of a more important character to attend to, that he has but little time to give them attention, and so is but poorly informed in regard to the management of them.

Besides, the mere text-books treat of them but very meagerly.

The work before us first gives a description of the minute anatomy of the nasal and pharyngeal cavities, and then follows with an account of the approved mode of examining the parts—describing the instruments and the methods of using them.

The rest of the work is occupied in discussing the various catarrhs to which the nose and pharynx are liable—such as catarrh in general, acute sporadic catarrh, chronic moist catarrh, chronic dry catarrh, intusorial catarrh, etc.; and then follows an account of the most approved mode of treatment, both internal and topical. Quite a number of pages are devoted to local medication and to constitutional medication, in which a numerous variety of medicines are mentioned. We will mention here that he speaks in very high terms of bromide of potassium as a wash in cases of tonsillitis and pharyngitis—an ounce to the pint or quart of water to be employed as a gargle every hour or two.

In conclusion, we will state that the work is a very meritorious one, and fills a real want. The general practitioner will find it, as we have stated, of very great assistance in treating a very difficult and annoying class of diseases to treat, and will be well repaid in purchasing and studying it.

THE SURGERY, SURGICAL PATHOLOGY AND SURGICAL ANATOMY OF THE FEMALE PELVIC ORGANS. In a series of plates taken from Nature, with Commentaries, Notes and Cases. By Henry Savage, M. D., London, F. R. C. S., etc. Third edition, revised and greatly enlarged. 32 plates and 22 wood engravings, with special illustrations of the operations on vesico-vaginal fistula, ovariectomy, and perineal operations. 8vo. Pp. 129, besides unnumbered pages of plates. New York: William Wood & Co.

This volume is number 6 of "Wood's Library of Standard Medical Authors" of 1880, several volumes of which we have already noticed. As we have stated, the Library of each year has twelve volumes, the price of which is \$15—no work being sold separately.

The plates of this work, although not colored, are excellent indeed, affording all that one needs in the way of

plates. The most minute anatomical parts are well exhibited—nothing being omitted. Accompanying the plates and cuts is a full description of them, and a complete account of the surgical pathology and surgical anatomy of the pelvis and the pelvic organs, together with, as stated on the title-page, commentaries, notes and cases. We feel sure that practitioners will find these plates as satisfactory in the way of refreshing the memory in regard to the anatomy of the pelvis and its organs as many colored plates, costing many dollars. In exhibiting the anatomy of the pelvis we do not think that there can be found a muscle, blood-vessel or nerve overlooked from without in, while the accounts of all, together with that of the organs, are correctly preserved.

CONTRIBUTIONS TO ORTHOPEDIC SURGERY: Including Observations on the Treatment of Chronic Inflammation of the Hip, Knee and Ankle Joints, by a new and simple method of extension, the physiological method; and Lectures on Club-foot (delivered at the College of Physicians and Surgeons, New York, special course). By Joseph C. Hutchinson, M. D., Visiting Surgeon to the Brooklyn City Hospital (N. Y.), etc. 12mo. Pp. 121. New York: G. P. Putnam's Sons. Cincinnati: R. Clarke & Co. Price, \$1.25.

We have in this work a monograph which will be interesting to surgeons in general and to that class of them called orthopedists in particular. There is no specialty in medicine which has so little literature as orthopedy, and, consequently, we have no doubt that those devoted to it will be pleased with the publication of this new work.

Orthopedy has made very great advances in the last few years. Probably more advance has been made in this department of surgery in the last fifty years than in any other department of medicine. It was not until 1816 that Delpech first made the attempt to relieve club-foot, and it was as late as 1828 that Montpelier published his work, "*De l'Orthomorphie*," describing the method of subcutaneous tenotomy. What an advance has been made since that time!

Dr. Hutchinson, in this little work, has treated very thoroughly chronic inflammation of the hip, knee and ankle joints—most important, grave, insidious diseases—

and club-foot. He has not only given his own valuable experience, but has presented the most valuable discoveries of others—bringing up the knowledge in regard to these subjects abreast of that of the present time. We have no doubt that all who are interested in the affections treated of will be pleased to secure the work.

COMMON MIND TROUBLES AND THE SECRET OF A CLEAR HEAD.

By J. Mortimer Granville, M. D., M. R. C. S., etc. Edited, with additions, by an American Physician. Philadelphia: D. G. Brinton. 1 vol., crown 8vo. Price, \$1.00.

This work is written for popular instruction by an eminent London physician, whose specialty is diseases of the mind. It is divided into two parts as follows:

Part I.—Mental Failings—Defects of Memory—Confusion of Thought—Sleeplessness from Thought—Hesitation in Speech—Low Spirits—Good and Bad Tempers—Mental Languor and Listlessness—Morbid Fears—"Creatures of Circumstances."

Part II.—Temperature—Habit—Time—Pleasure—Self-Importance—Consistency—Simplicity—The Secret of a Clear Head.

The book will be found highly interesting, not only to the laity but to physicians. All of the various subjects are well treated, and much valuable information is presented. Dr. Mortimer has been a close observer of men, and the facts which he has gathered he has given much thought.

EDITORIAL.

PARTIES who advertise will consult their interests by advertising in a well-established journal—not one just commenced, nor one that has lived out its day of usefulness and is kept alive by occasionally buying up the subscription list of a defunct contemporary. It is better to pay a reasonable sum for space in a journal of large *bona fide* circulation than a very small sum in a journal of scarcely any circulation.

THE MEDICAL NEWS is the cheapest medical journal to advertise in of any medical journal in the West—not because it charges less per page, but because it has the largest circulation. Those who advertise in it usually continue their advertisements so long as they continue to advertise in any journal. In looking over the advertising form it will be observed that not a few of the advertisements have been appearing for years.

We hereby append the post-office law in regard to periodical publications. By noticing it, and keeping it in mind, hard feelings would sometimes be avoided:

UNITED STATES POSTAL LAW.—1. A postmaster is required to give notice *by letter* (returning a paper does not answer the law) when a subscriber does not take his paper out

of the office, and state the reasons for its not being taken. Any neglect to do so makes the postmaster *responsible* to the publishers for payment.

2. Any person who takes a paper from the post-office, whether directed to his name or another, or whether he has subscribed or not, is responsible for the pay.

3. If a person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it until the payment is made, and collect the whole amount, *whether it be taken from the office or not*. There can be no legal discontinuance until the payment is made.

4. If the subscriber orders his paper to be stopped at a certain time, and the publisher continues to send, the subscriber is bound to pay for it *if he takes it out of the post-office*. The law proceeds upon the fact that a man must pay for what he uses.

5. The courts have decided that refusing to take a newspaper and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

PROFESSORIAL CHANGES.—Dr. Geo. E. Walton, who a short time previously was elected Professor of Practice of Medicine in the *Cincinnati College of Medicine and Surgery*, has resigned that position, and gone into other business. It is probable his new calling will be more pleasant, if not more profitable, than lecturing in association with some of his former colleagues.

We understand that Dr. R. B. Davy, who formerly held a chair in the school, but who had his name left out of the catalogue because he fell into bad odor with Dr. Bramble, has been re-elected to the faculty. Dr. B., we presume, has concluded to tolerate him. We do not think, however, that the toleration will be long. Dr. Aub, it is said, is getting anxious to obtain some one of common ability to fill the chair of surgery, and it is probable that Davy will combine with him and Miles to bring it about in due season. It is asserted that long before Aub was taken into the faculty, that Miles, professedly Bramble's friend at this time, had stated that the school would never occupy a position satisfactory to its friends so long as the present incumbent of the chair of surgery held his place. He will, of course, therefore, if such be the case, be ready to join Aub and Davy to remove the obstacle in the way of the prosperity of the school at an appropriate time. He does not seem to consider that his own literary and scientific attainments and moral qualities affect at all the welfare of the school. Already venereal diseases have been sliced off from surgery, and given to a young man, who is a sort of a man-Friday of Miles. Of course, that high-toned gentleman, who obtained so much *eclat* to himself recently, when a Police Commissioner, and his own political party was very anxious to get rid of him—S. S. Davis, we refer to—will be ready at any time, as a trustee, to

aid his friend Aub to bring about whatever he wishes. It was for this purpose, he said, he accepted his trusteeship.

Since the above was written, two or three days ago, and just as we are closing up the last form of the August number of the MEDICAL NEWS, a medical gentleman of this city hands us a hand-bill, which was recently circulated about in a private way where it was calculated "to do the most good." It is scarcely necessary to say that the "BRAMBLE" on the bill is the Dr. Bramble who is now figuring so conspicuously as a member of the Board of Health, and who, it has been testified, has been anxious to realize a few hundred dollars in an honest way. He is, also, brother of D. D. Bramble, Dean of the *Cincinnati College of Medicine and Surgery*. This Bramble is a graduate of that college. When he first applied for graduation, he was black-balled, Dr. Tate and others, who were then members of the faculty, but have since resigned, voting against him. But his brother, David, making so many demonstrations of dissatisfaction, a sufficient number reconsidered their vote to let the individual pass.

Since his brother has been so distinguishing himself, Dr. David D. Bramble has had it announced in the newspapers that the Dr. Bramble, of the Board of Health, is not himself, but another Dr. Bramble. He does not state, however, that *the other Dr. Bramble* is his brother, with whom he is in intimate association and who has charge of a drug store of his. While he evidently does not wish the public to know of the relationship, he could have very easily prevented the selection of his brother to the Board by those who elected the members of the Board of Health. But he did not. The result consequently has been the election of his friend and colleague, Dr. Abijah J. Miles, as Health Officer, and the obtaining of other favors of more or less value.

With its present faculty, what can be the opinion of honorable and high-minded physicians of the *Cincinnati College of Medicine and Surgery*. A few years ago it had gentlemen in its faculty of whom any medical college could well be proud. There have been in the faculty, James Graham, M. B. Wright, C. G. Comegys, Thomas Wood, J. H. Tate, R. R. McIlvaine, Taliaferro, B. S. Law-

son, etc., etc., all of whom were of the highest standing in the profession.

But here is an exact copy of said hand-bill:

DOCTORS BRAMBLE & PERON,

Medical Office, 274 Walnut Street, Cincinnati, O.

A PERFECT REVOLUTION IS EFFECTED BY THEM IN THE
TREATMENT OF ALL DISEASES.

YOUNG MEN!

If you have injured yourself by certain secret habits, and are now nervous, weak, forgetful and timid, unfit for business, marriage, or society, call on the Doctors. Their appliance for seminal weakness never fails to effect a cure.

Middle-aged or old men, who feel debility in advance of their years, call and learn a certain mode of regaining your lost vitality.

Recent cases of private diseases cured in a few days. Cases of long standing, in less than half the time others occupy experimenting.

Mercurial affections, humors, scaly eruptions of the skin, and all impurities of the blood thoroughly removed in a few weeks by the treatment.

Sufferers by weakness and nervous debility, the result of that body-destroying and mind-crushing vice, which is the bane of thousands, can have their health fully restored, no matter how many have deceived you. Call on them, or write the particulars of your condition, and they will guide you to the fountain of health. Let no false delicacy prevent you, but come before reason shall lose its sway, or consumption marks you for its victim.

"Diseases of Women."

The Doctors' long and successful practice in treating the special and peculiar ailments of the

FEMALE SYSTEM,

Enables them to offer superior inducements to all requiring the services of a physician, where skill, honor and confidence are requisite to success. Their method of treatment is radical, yet harmless, and in no instance is followed by prostration, but insures a safe and immediate cure, even in extreme cases, where others may have failed to afford relief. Our remedies are purely vegetable, and act with nature in restoring the functions necessary to health. Full particulars of treatment, and information incident to the effects of medication, given by calling on the DOCTORS.

Office, 274 Walnut Street, bet. Sixth and Seventh Streets, Cincinnati.

POST-OFFICE ADDRESS, BOX 953.

☛ Good accommodations for nursing and board while under treatment. ☛

☛ EVERY PATIENT IS INSURED RELIEF. ☛

THE CINCINNATI BOARD OF HEALTH.—In several previous issues of the MEDICAL NEWS we have had something to say in regard to the *unhealthy* condition of the Board of Health of this city. Several weeks ago the Cincinnati *Enquirer* unhesitatingly announced that Dr. Miles, Health Officer, had paid members of the Board \$600 for his appointment. Previous to this publication the report prevailed that bribery had been employed to obtain an election. It was also believed that other appointees of the Board had been compelled to pay money for their positions. So openly were the charges of corruption made that finally the Board were under the necessity of pretending, at least, of making an investigation—they themselves being defendants, prosecutors, and judges. After calling a number of witnesses, whose memories were remarkably deficient, they were informed by the City Solicitor that they were without authority to enforce attendance of witnesses or to compel any one on the stand to answer questions. When the Solicitor had delivered himself of this opinion, the witnesses who were present and had not testified, refused to give testimony. Under the circumstances the Board adjourned further investigation *sine die*, voting down a motion to request the Board of Council to institute an investigation.

So far as the pretended investigation went nothing special was proven. As stated, several of the witnesses had exceedingly deficient memories—others positively denied statements that it was well known they had made. Sufficient, however, came out to render it very certain that there was a vast amount of corruption lurking about. It was testified to that Dr. Bramble, of the Board, had said that he must make \$400.

Although previous to the present time a number of the Boards of Health of Cincinnati was not up to the standard that they should have been, yet we are not aware of the charge of corruption having been made against any of them; and until the present Health Officer was appointed, no one ever suspected, for a moment, that the gentlemen holding that position had paid anything for it. In fact, the high character of the individuals for integrity precluded anything of the kind. Dr. Miles is the first and only Health Officer of whom it is the common street talk that he made use of bribery for his position.

The Cincinnati *Commercial*, of July 29th, contained an

editorial from which we make the following quotation:

"There are no new developments in the Board of Health affair that terminated so abruptly on Tuesday. The probability is that it has reached the end of the string. It was about time, when it got down to such expert testimony as Hodgson's and Leonard's, that might have been. It has been demonstrated, however, that there is no unhealthiness, no plague-spot in this city in so much need of a thorough fumigation and disinfection as the Board of Health."

The Health Officers, previous to the present one, filled the office with much credit to themselves, but the present one seems to be very far from distinguishing himself.

HYDRATE OF CHLORAL.—Dr. H. H. Kane, of New York City, specially requests members of the profession, with any experience whatever in the use of hydrate of chloral, to answer the following questions, and give any information they may possess with reference to the literature of the subject:

1. What is your usual commencing dose?
2. What is the largest amount you have administered at one dose, and the largest amount in twenty-four hours?
3. In what diseases have you used it (by the mouth, rectum or hypodermically), and with what results?
4. Have you known it to affect the sight?
5. Have you ever seen cutaneous eruptions produced by it?
6. Have you known it to affect the sexual organs? If so, how?
7. Do you know of any instances where death resulted from or was attributed to its use? If so, please give full particulars as to disease for which given; condition of pulse, pupils, respiration and *temperature*; manner of death; condition of heart, lungs and kidneys; general condition, age, temperament, employment, etc., etc., etc. If an autopsy was held, please state the condition there found?
8. Have you seen any peculiar manifestations from chloral—as tetanus, convulsions or delirium?
9. Do you know of any cases of the chloral habit? If so, please state the amount used, the disease for which the drug was originally administered, the person's temperament and the present condition of the patient, with

reference to the state of body and mind in general, and of the various organs and systems in particular.

Physicians are earnestly requested to answer the above questions fully, especially 7 and 9, in order that the resulting statistics may be as valuable as possible.

All communications will be considered strictly confidential, the writer's name not being used when a request to that effect is made. Address all letters to Dr. H. H. Kane, 191 West Tenth Street, New York City.

GEO. P. ROWELL & Co.'s AMERICAN NEWSPAPER DIRECTORY FOR 1880 is on our table. This work contains accurate lists of every newspaper and other periodical published in the United States and Canada, and an account of the towns in which they are published. The price, politics and circulation of each as ascertained from the best sources are given. The lists are arranged by States. The whole work occupies 1,044 octavo pages. Any intelligent man will find in it a large amount of interesting information, but to the business man, who advertises, it will be found invaluable. In fact, a merchant or manufacturer, who does much advertising, would find it to his interest to pay \$100 or more for it if he could not obtain it for a less sum, but the Messrs. Rowell & Co. charge only \$5 for it. Published by Geo. P. Rowell & Co., New York.

THE POPULAR SCIENCE MONTHLY, for August, is up to the high standard of other numbers of that excellent journal. This journal has justly obtained a higher rank than any other monthly magazine published in the United States. It contains no stories whatever. The following contents for August will give an idea of its scope: I. The Kearney Agitation in California. II. The Interior of the Earth. III. On the Method of the Zadig. IV. The Medical Leech. V. Recent Original Work at Harvard. VI. Geology and History. VII. The Cinchona Forests of South America. VIII. Types of the Nubian Race. IX. Algebras, Spaces, Logics. X. Chemical Exercises of Schools. XI. Rarity of Premature Burials. XII. St. Gothard Tunnel. XIII. Fauquier's Santarin and its Eruptions. Besides these articles there is Correspondence, Editor's Table, Notices, etc. Published at \$5 a year by D. Appleton & Co., New York.

NEW YORK, June 1, 1880.—Drs. Gross, Douglas, Weiss and other distinguished surgeons assembled, Dr. Lewis A. Sayre presiding, and founded an American Association of Surgeons (the exact name of the society is not yet decided upon). This society will, like the Congress of Surgeons in Germany, meet once a year for a three days' session. There will be 125 members only, 100 active, 25 honorary, of the latter 10 Americans, and 15 foreigners. Only those are eligible who have distinguished themselves as writers and teachers, or by their original researches. Dr. Samuel D. Gross was elected President.

THE Rev. Dr. E. Wentworth, in an article in a recent number of the *Western Christian Advocate*, of this city, in discoursing upon Time, says: "Time has a commercial value. It had 3,000 years ago. Moses decreed that if one man injured another in a quarrel he should pay the other's doctor bill, and also for his lost time." No one can, therefore, be a religious man who does not pay his doctor's bill, nor can a doctor be a religious man who does not pay for his journal.

MARRIED.—We have the pleasure to announce that DR. CHAS. A. L. REED, known to not a few of our readers, was married, May 27, 1880, to Miss Rena E. Daugherty, of Otterville, Ill., by the Rev. N. E. Harmon, of the M. E. Church.

The Doctor, who has recently been practicing his profession at Fidelity, Ill., has removed to Hamilton, O. He has the good wishes of all of his many friends for his prosperity and happiness. Endowed with more than ordinary ability, and being an industrious student, we feel assured that he will become a successful practitioner and will make his mark.

ALFRED SWAYNE TAYLOR, M. D., F. R. S.—This world-renowned physician and toxicologist—the author of several text-books, among them Taylor's Medical Jurisprudence—died at his residence in London, England, May 27, 1880.

READERS are requested to notice the advertisement of Mr. Sutton, of Louisville, of Extract Malt.

THE CINCINNATI MEDICAL NEWS.

VOL. XIII. No. 153.
Old Series.

SEPTEMBER, 1880.

{ VOL. IX. No. 9.
New Series.

ORIGINAL CONTRIBUTIONS.

The Use of Caustics in Dermatological Practice, with Special Reference to the Treatment of New Growths.

BY I. EDMONDSON ATKINSON, M. D.,

Clinical Professor of Dermatology in the Medical School, University of
Maryland. Read before the Medical and Chirurgical Faculty
of the State of Maryland.

THE very important part played by cauterizing agents in the treatment of diseases of the skin, will justify, I hope, the effort I propose to make in this paper, to present, as briefly and concisely as I can, the circumstances under which this class of remedies becomes useful, more especially in the new formations, and to indicate the choice to be made in selecting appropriate caustics.

There have been, and are, considerable differences of opinion concerning the real value of escharotics; some writers upon the one hand lauding them as superior to the use of the knife, while others regard them as, at best, but little more than adjuvants to more effectual procedures for extirpation. There can be no doubt, however, that neither of these views is correct, but that the truth is to be found, as is usual, in the middle course; for circumstances render now one, now the other, method preferable, in proportion as the parts to be operated upon are superficial or deep, extensive or restricted, irregularly disposed or circumscribed. Where the morbid tissue is well defined; where the destruction of a certain amount of normal structure will be of little or no consequence; where the cicatrix will not offend by the resulting deformity, there can be but little doubt that the knife will

prove the most effective agent. But it happens that the cutaneous affections, for the removal of which the methods in question are most often employed, are, in the great majority of cases, situated upon the face, the integrity of whose features must always be a subject of much care, both to patient and physician. Moreover, certain of the diseases in question are apt to invade tissues irregularly, leaving between their deposits intervening tracts of healthy surface, whose destruction is not desirable, nay, whose preservation is essential; again, the disorder may be so small and superficial that a desire to avoid the use of the knife is natural; finally, the lesion may be one where the knife is not available.

It is hardly worth while to discuss here whether recurrence is more often observed where one or the other method may have been followed; for since the question can not concern any specific process beyond the mere matter of complete removal, it is needless to say that definite conclusions have not been reached.

The present article, then, is not intended to laud the action of caustics as superior or equal to that of the scalpel under all circumstances in these diseases, but only to indicate, in a measure, the conditions under which they should be employed in preference to all other means, or as accessory to these, the selection of the particular caustic for the given purpose, and, in a word, to assist in rescuing from the hands of ignorant quacks and pretenders such precious remedies; for it can not be denied that in this country, at least, they have been abandoned to a large extent to such persons, whose ignorant and indiscriminate uses of them have tended to bring them into further disrepute.

Caustics or escharotics are remedies that act by destroying the life of the part with which they are brought into contact, forming a slough which becomes separated from the subjacent living tissues. They effect this result either by dynamical or chemical action. In the former case it is by primarily destroying the life of the tissue, the disorganization and slough forming secondarily. In the latter event they act by appropriating from the structures certain elements for which they have most powerful affinities, and by their combinations with these effecting disorganization. The very great majority of caustics act thus. Caustics may again be divided into the actual

cautery and the potential caustics. The former term is more definitely used in the application of metallic substances heated to a red or white heat by simple exposure to flame. It is also properly applied where the necessary degree of temperature has been obtained by the action of the electric current or of incandescent gases upon certain metals. The active agent in either case is the heat developed; the methods employed are simply means of attaining the same end, and in their use one should be governed in his selection by the advantages one enjoys over the other *only* in the convenience with which it may be applied. The potential caustics, acting through their inherent affinity for certain elements of the tissues or through an influence exerted directly upon their vitality, are so numerous that their description and an analysis of their comparative values would far exceed the limits of this paper. I, therefore, propose to restrict my efforts to a brief presentation of those of them most useful in cutaneous surgery and of some of the circumstances under which they are applicable.

The actual cautery has, in the affections we are considering, a wide range of usefulness. It has been employed with benefit in carcinoma, lupus, malignant pustule, chancre, phagedena, vascular nævus, etc. The advantages claimed for it are, that it is quick in its operation, that when used at a white heat it is really less painful than any other caustic, and that its action ceases as soon as the heat is withdrawn. The resulting scar, moreover, is usually soft, more pliable and less unsightly than when produced by the stronger potential caustics. It is especially indicated in the treatment of phagedena. The extensive, obstinate and penetrating ulceration often accompanying violent bubo may be very promptly arrested in this way. The success obtained by many surgeons in treating lupus vulgaris and epithelioma with the actual cautery has been most flattering. In such cases it is often best to spoon out with the dermal curette as much of the infiltrating new growth as possible, and then to apply the cautery. This plan has been followed by Piffard in treating lupus with better results than by any other method. My own impression, however, is that these cases are not best suited to this treatment. In epithelioma I certainly have not obtained as good results by it as by other methods. With the actual cautery we are never able to

tell when a sufficient destruction of tissue has taken place unless the limits of disease have been far exceeded. There is nothing to indicate accurately that the incandescent metal has done its required work. It is true, we can stop its action at will and thus secure an advantage of the greatest importance over those who use the stronger potential caustics in similar cases. In cutaneous surgery, therefore, the actual cautery is of great value in all cases requiring destruction of tissue, especially those where the activity of the morbid action requires a prompt arrest, such as phagedena, malignant pustule, etc., conditions where it is necessary to exceed the limits of present disease. In all cases it is probably superior to the stronger potential caustics whose action can not be controlled, but which continue their disorganizing progress until the characteristic chemical changes have been brought to an end by combination with the elements of the tissues or by artificial interference more or less ineffectual. Except for special conditions, thermo-cautery is to be preferred. The convenience and handiness of the "thermo-cautere" of Paquelin are such that it may reasonably be hoped that, through it, a means of treatment, that, from the difficulties of its application, had nearly fallen into disuse, will again become popular.

Where the potential caustics are to be used (and the indications for them are the same as for the actual cautery) there is a large list from which to choose. More prominently may be mentioned caustic potash, zinc chloride, nitric, sulphuric, chromic, carbolic acids, arsenic, silver nitrate, etc. For general escharotic purposes none can exceed in efficacy the caustic potash. It, however, acts upon healthy tissues as freely as upon morbid parts and should not be used over extended surfaces. Where the part to be operated upon is of limited extent, as a small epithelioma or a lupus patch, or where an active caustic is imperatively demanded, it may be employed with advantage, pure or as the well-known Vienna paste, made of equal parts of caustic potash and quick lime, worked into a paste with alcohol. The scar resulting from potash cauterization is apt to be very white and dense, and, consequently, unsightly. The same objections hold regarding nitric and sulphuric acids. Many surgeons use preferably the zinc chloride, either in powder, as paste (Cauquoin's Landolfis', etc.), or as "arrows" made

after the manner of Maisonneure, Kobner and others, to be thrust into the morbid deposit. Although the zinc chloride is preferred by Billroth to all caustics, and although its value in general surgery is incontestable, it is nevertheless open to the same objection as caustic potash, inasmuch as it destroys both morbid and healthy tissues, acting, however, less energetically upon the latter.

Were we restricted in our selection of caustic agents to such preparations as those just enumerated, it is very easily understood why they should have been employed only in cases where the scalpel could not be used, or else to assure the complete destruction of all morbid particles that the knife might not have reached. The surgeon's eye and touch are incomparably finer diagnosticians than are all devouring caustic and will always, under ordinary circumstances, be preferred to such. But the special object of this paper is to direct attention to the valuable agents experience has placed at our disposal, agents whose fortunate quality is to discriminate between the more lowly organized constituents of the new growth and the stable and resistant tissues of health, to attack and destroy the one, leaving the other in its integrity. How desirable are such agents in combating the scattered and irregularly distributed deposits of lupus and epithelioma, maladies whose almost constant tendency is to invade the face, often leaving islands and bands and prolongations of healthy tissues in their midst, tissues most precious if we would preserve features from hopeless and shocking deformity, and which the cutting instrument can not spare, though directed by the most skillful hand.

But it may be asked, can these remedies be relied upon to produce the same results as the scalpel. Can they destroy the new growths so that permanent cure may be attained? The answer is, they can do this with as much certainty as can be attained; for it must not be forgotten that one has here to deal with affections that very often baffle surgical art, however exercised, recurring and progressing in spite of all efforts to check them.

Naturally, success may be expected more confidently where the morbid process has invaded the skin in more limited areas of superficial extent. As the deeper parts become invaded the disease becomes more unmanageable, and, in cancer, the implication of the neighboring glands renders the use of all remedies hopeless. Many

cases of lupus and epithelioma present such arrangements of their infiltrations, nodules and ulcerations, that the milder caustics are indicated; and under these conditions they may be used, with, often, the most astonishingly favorable results. The list might be made quite extensive, but I propose to limit my efforts to-day to the consideration of those only whose action may be considered most satisfactory.

The anhydrous zinc sulphate was recommended by the late Professor James Y. Simpson, either in powder, ointment or paste. Thus used it will not destroy tissue protected by a healthy epidermis, and consequently should be classed with the milder caustics we are considering. Stephen Smith (*N. Y. Med. Record*) has recently given it his endorsement. According to this author, the pain during its application is not excessive. Three or four hours are required for its full action.

But the two most valuable articles of this in our possession, by far, are the lunar caustic and arsenical paste, and for the most efficacious methods of using them, we are indebted, more than to any other man, to the great Hebra. The stick of lunar caustic possesses such feeble escharotic properties that its use has been discountenanced and denounced as almost without value. One may, indeed, bore and poke at healthy tissues with it and make almost no impression upon them; not so, however, with the crumbly infiltrations of lupus and cancer. Here the pointed pencil sinks with but little resistance into the morbid mass, and only meets with an obstacle when it impinges upon the subjacent healthy tissues. It matters not what structure the new growth has invaded; if bone, it melts into the same pultaceous mass as if in the softer tissues—thus the limits of neoplasm may be so sharply discerned by the pencil that when the operation is completed there will be left the normal parts undisturbed, the morbid parts changed into a discolored, disorganized pulp. The pain attending this operation is severe, and continues for an hour or two, so that it is usually proper to administer an anæsthetic during the operation. The resulting cicatrix is small and pliable, since only the infiltrating material has been destroyed. A very effective method of using the silver is to do so after spooning out the mass as thoroughly as practicable with the dermal

curette, as referred to when speaking of the actual cautery.

Arsenic has long enjoyed a reputation as a caustic, but it has fallen into disrepute on account of the dangers of systemic poison from absorption. Indeed, fears of this are not altogether ungrounded and should prevent the application of arsenical caustics to very extensive or to freshly granulating surfaces. But for the destruction of small areas of lupus vulgaris or of epithelioma it may be prepared in such combination as to secure perfectly the wished-for result without any peril of systemic poisoning. The latter object has called forth preparations of arsenic in various pastes, such as Marsden's Mucilage, composed of equal parts of arsenious acid and powdered gum acacia made into a paste with a few drops of water, Dupuytren's paste of arsenic and calomel, and others. But above all other arsenical pastes must be esteemed the one of Frere Cosme, as modified by Hebra, and used by him and others with uniformly safe results in several thousands of instances (Hebra, *Dis. of Skin*, N. Syd. Soc. Trans., vol. 4, p. 104). This modified formula is as follows, viz.: Arsenious Acid, ten grains; Red Sulphuret of Mercury (Cinnabar), a half drachm; Cold Cream, a half ounce. The arsenic is here present in such quantity only as will create a sufficiently violent irritation of the skin to destroy its vitality, but not in amount great enough to make the absorption of a poisonous dose possible. This paste should continue in contact with the morbid part for three or four days, with daily renewals in accordance with explicit directions, which Hebra has been at pains to give in full. At the end of the requisite time the new growth will have been converted into a brownish slough, while the healthy tissues, though inflamed and swollen, remain entire. The pain, which will be severe during the late stages of the application, should be controlled by anodynes, while under poulticing the irritation will shortly subside and the slough be thrown off. The smallest possible scar will result. The procedure may require to be repeated several times, until the new growth ceases to reappear. Hebra advises that the paste should not be applied, at one time, to a surface larger than twice the extent of a palm. More recently, Kaposi recommends that the area should not exceed a surface larger than a single palm. With such extensive application of it I have

had no experience, but the testimony of Hebra and Kaposi, and others, whose acquaintance with this method of treatment is the greatest, should certainly inspire confidence. Over smaller surfaces my own experience with it has been most satisfactory.

Lately, pyrogallic acid has been used for the destruction of morbid skin tissue. Jarish and Kaposi have both employed it in treating lupus and epithelioma, but with not constant results. A 10-per cent. ointment of the acid applied in a manner similar to that of using the arsenical paste has had at my hands a very happy influence in removing hypertrophic granulations. That its use should be attended with watchfulness is shown by the fatal result of poisoning, reported by Neisser, in which the ointment had been spread on a very large surface of a patient with chronic universal psoriasis.

The foregoing very imperfect observations upon the use of caustics in dermatology are designed merely to urge the importance of a closer examination of the merits of this treatment than it is generally receiving; to point out that the successes claimed by quacks "without the use of the knife," are not always without foundation in fact; to show that under certain circumstances caustics may be used to greater advantage than any other agent; to indicate some of the caustics, from the use of which the most desirable results may be procured. I have not ventured to enter into detailed descriptions of the methods I have recommended, since they may be more profitably studied in the pages of those authors to whom we owe most of what is known upon these subjects and whose labors have afforded us the most valuable applications of caustic remedies. All that I can offer is the small but gratifying experience I have had: an experience that has convinced me of the great utility of these remedies and has determined me to make more extensive use of them in the future.

On Important Points in Surgery.

BY G. P. HACHENBERG, M.D., AUSTIN, TEXAS.

MR. PRESIDENT:—One of the principal benefits of a medical society, such as I have the honor to appear before on

this occasion, is the knowledge gained by its members in learning each other's experience.

Such is the multiplicity of duties and incidents in the practitioner's career, that he can scarce fail to present to his compeers some subjects of interest based upon his experience.

As I have the honor to be invited to address you on some surgical subject, I propose to give you my experience, not on any one particular subject, but will touch upon different important points in surgery. I shall have little or nothing to say in regard to my successful cases, except where they come in the way to establish some important principle in the practice, but shall principally speak of surgical difficulties and want of success in several of my own capital surgical operations. It would be more gratifying to my vanity to adopt the usual mode of reporting successful cases, but, in doing so, I have my doubts that I would be performing my highest duty; at least, that I would be paying so beneficial a tribute to science or humanity, or present subjects so advantageous for your thoughtful consideration, as I would if I speak somewhat in detail of cases wherein I failed of success.

In regard to the reports of the two classes—the successful and the unsuccessful cases—it is often that the reports of failures of successful operations, with their causes assigned, are of greater interest than many out of that flood of reports of extraordinary cures under which the medical press is teeming.

Let me give you an example. Many years ago, Prof. Eve treated a slave that had traumatic paralysis of the left arm, caused by the fall of a bale of cotton on the left shoulder. He taxed his ingenuity to the utmost to cure his patient; but, in spite of all his efforts, the limb remained paralyzed, and, finally, became so reduced by atrophy, that it stuck to him more like some stick than an arm. Years after, reading the Professor's report of this case, I was called to see a similar case. The patient was an Irishman, and the injury was caused by the fall of a heavy cake of ice on his left shoulder. Before I saw him he had been seen by several physicians; some had diagnosed the case fracture, some partial dislocation, and some considered it a bad sprain. In examining the patient, I was reminded of Prof. Eve's case and his unsuccessful treatment. Believing that I could do the patient

no good, I declined to treat him. After I left, two physicians took charge of the case, and promised the patient a speedy cure. They affected a respect for my diagnosis, but laughed at my prognosis. They treated the case with counter-irritation, nux vomica, strychnine hypodermically, and electricity; but, after a year's trial, they not only failed to bring about the least nervous reaction, but the excitement made matters worse, by inducing a general painful edema of the arm. I surely should have been caught in the same snare had I not read Prof. Eve's report.

The reports of extraordinary cures, if they have not the ring of empiricism, at least carry with them a less positiveness—less science—than many reports of unsuccessful cases, in particular where a *post-mortem* examination is a part of the history. We can not always tell what cured a patient, but can nearly always tell what did not cure him, or what killed him. I once gave a lady four drops of Norwood's tincture of veratrum viride for an incipient puerperal hysteritis, and, owing to some idiosyncrasy, the medicine, for several hours, kept the heart in such a depression as to alarm her friends exceedingly. The siege of depression effectually jugulated the inflammation; at least, we thought so; but had the medicine killed the patient, there would be less speculation what the medicine really effected.

I do not propose to investigate how cures are brought about; but if I was called upon to point out a universal principle that involves the operation of a cure, I would not refer to that classical axiom, *Vis medicatrix naturæ*, that really means nothing, to bring it strictly under the comprehension of medical philosophy; but, in order to cure, we have to induce a decided change of action, local or systemic, as the case may require, and where this is judiciously conducted on the principle that two great pathological actions can not exist in the system at the same time, one of them must succumb. It often matters not what you use to make that change in some instances, only so you do no harm. This is why opposites and likes cure; why heat and cold, acids and alkalies, dry and wet, rest and violent exercise, fasting and hearty meals, may, to the astonishment of some, cause miraculous cures. They do cure, as well as kill.

The imputation that medicine in order to cure must in-

duce a counter-pathological action, is a correct one, and explains why the most active poisons at times prove our best remedial agents.

Before speaking of surgical subjects, permit me to make a few remarks on the surgeon himself. The elements that make up a good surgeon, to judge him from the standpoint of a grave operation, are both numerous and complex. He should have an accurate knowledge of the disease, or nature of the injury he has to contend with. He must not only be able to make a true diagnosis of the case, but make a prognosis that may be relied upon. He should have an accurate knowledge of the anatomy of the parts he is to operate upon, and must know, to a fraction, what surgical strain his patient can bear. He should be physically strong, with firm nerves, or be master of them. In disposition he should be hopeful, cheerful and self-possessed. He should not only be intellectually strong, but should have a mind that is well disciplined and of quick conception. Aside of these acquirements, he should be by nature a surgeon. Colleges may give learning and mental vigor, but it is only nature that can graft genius or exquisite judgment to it, and make the scholar a great and gifted man. I know that the genius himself ignores this psychological doctrine, and makes light of this gift of nature, and calls it the fruit of application. It is true that genius can not be developed without application; but it is likewise true that application alone will not develop genius.

What constitutes the genius of a surgeon? It is an ability to turn his knowledge to the best advantage. This he does fearlessly, with self-confidence, and circumspection. He is kind and gentle, and still has nerve to enforce measures to meet a dire necessity. He is ready, neat, methodic, and skillful in his work, and every operation he performs carries with it the stamp of ingenuity. He is not only highly artistic, and a mechanic of the first order, but a ready inventor within the whole range of natural philosophy. "It is the prerogative of genius," says an eminent philosopher, "to produce novel impressions from familiar objects"—"it finds its own road, and carries its own lamp."

In my practice in Philadelphia, I repeatedly observed the work of two of the greatest surgeons of America—Pancoast and Gross. Pancoast is, perhaps, the most

skillful surgeon of this country, and Gross the most learned surgeon and pathologist of the age. Pancoast, in every sense, is a surgeon by nature, with a genius that soars high above all book knowledge and collegiate training. Nature has lavished her gifts on Gross, too, but they hardly exceed his colossal surgical scholarship. If I were the subject of an important surgical operation, my impulse would be first to consult Gross, but afterward resort to Pancoast for the operation. In case of a relapse, however, I go to Gross for operating.

To illustrate the characters of these two great surgeons, let me give you an incident that occurred in Pancoast's practice.

He was called, unexpectedly and unprovided with surgical instruments, to see a gentleman on the highway with compound fracture of the arm. As he approached the patient, he, at a glance, surveyed the nature of the injury, and the first thing he took hold of was one of the patient's boots. The patient cried: "Doctor, it is not my leg that is hurt, but my arm." The Doctor, not heeding his remark, pulled off the boot, and at once proceeded to cut the leg of the boot away, and improvised a set of splints. For the linen dressing he tore the sleeves away from his shirt, and to secure the leather splints, even the patient's hat-band and his ribbon watch-guard were brought into requisition. Had Prof. Gross been called to the case, cutting up the poor man's boots and tearing his clothes from his back for surgical dressing, would have been the last idea that would have entered his learned head. Pancoast is a great surgical inventor, and will improvise his instruments almost out of anything that will cut or saw, if necessity compels him to do so, while Gross, who reigns only in majestic surgery, would hardly think of treating any case without some exquisite tool made by Tiemann or some other of his ilk.

Surgery being based on mechanics, and, as there are some men that never could become expert mechanics, particularly in the more delicate and complicated work of this department, it follows there are men that can never become skillful operative surgeons, however full and accurate their knowledge of the human body and its diseases may be. Place a small lady's watch in the hands of an oculist, and let him take out, one by one, all its

works, and the natural skill he will manifest in this task he will show in a delicate operation on the eye.

A shrewd lawyer, who was in the habit of judging everything and everybody for himself—who well understood the point in question—was anxious to secure the service of a skillful surgeon to perform an operation on his little daughter for hare-lip, and, if possible, have the operation so performed as to leave the least deformity. In his first interview with the surgeon, who was a stranger to him, he asked him to take a pencil and paper and describe successively a square, a circle, and a triangle; “then, if you please, thread this needle,” laying down a very fine needle and some coarse sewing thread. The surgeon at first was indignant at such cool impertinence; but as a Blackstone equanimity is not easily disturbed by any ebullition of this sort, he repeated the request, stating that he desired an exhibition of his surgical skill, and that he would pay him for his trouble. The surgeon, with a smile that indicated either amusement or mischief, took up the pencil, and on a sheet of paper, in quick succession, drew a perfect square, a circle, and a triangle; then he took the thread, separated the strands, and slipped the end of one in the eye of the needle with the first effort.

“Bravo!” cried the lawyer; “a pretty good geometrical surgical eye, and you met the emergency well in threading the needle. I am satisfied. What is your fee?”

The surgeon coolly replied, “\$5 for making a square, \$5 for a circle, \$5 for a triangle, and \$5 for threading a needle.”

The lawyer paid the fee, and, at the same time, engaged the surgeon to perform the surgical operation on his daughter, which was done in a most satisfactory manner.

In speaking of my case of traumatic paralysis, I made the remark that I declined to treat the case. In this I did justify myself. If I had thought there was one chance out of a thousand in favor of the cure, I would have deemed myself morally bound to accept him as a patient. This leads me to consider a principle that should govern the surgeon in treating capital and dangerous cases. He is often called upon to perform operations where there is but a small chance of the patient's recovery, and the damaging effect that such cases often have on his practice, where they terminate unfavorably, tempt him

to avoid them. We all know that where he gets one mark of merit from the public for a clever act, he may get a hundred of condemnation for a mishap for which he may not be responsible. His successful operations are a matter of course, but should an unsuccessful operation bring him under the ban of censure, it is never forgotten, even by the weakest of memories. This state of affairs has its bad effect, both on the surgeon and the public. The surgeon grows timid with his risks and may avoid them, to the detriment of his honor and the loss of many lives. It is a remarkable fact, the longer the surgeon practices his profession the less he is inclined to perform capital operations that are apt to terminate unfavorably. There was a period in Mott's practice when he operated on the *arteria innominata* many times—every operation terminating in the death of the patient. Such formidable operations he seldom attempted in the latter years of his practice.

And, by the way, were these operations justifiable? They were, in the master hand of Mott and at the time they were performed. For he solved the question whether such an operation should ever be attempted. Had he saved but one patient, then tying the *arteria innominata* would be an operation every surgeon should know how to perform.

Baron H. Larrey, in the wars of Napoleon the First, amputated at the hip-joint seven times and saved but one patient. Pott, Lawrence, Sir Charles Bell, and other distinguished surgeons, repudiated the operation, but not on grounds that will bear the test of duty and humanity. The operation finally became one of the established operations in surgery, and such would have been the history of Mott's operation, if he, like Baron Larrey, saved the life of but one patient.

One of my preceptors, a noted surgeon, had two terrible mishaps in his practice. One was in operating for strangulated hernia; he cut into the gut, and saved his patient with the miseries of an artificial anus. The other case was that of an interesting little girl that had some foreign body lodged within the *æso-phagus*. In the attempt of removing it with a hook, the hook was firmly grasped by a spasmodic action of the *æso-phagus*. This unexpected event so disconcerted the doctor that he lost all presence of mind, and, instead of overcoming the spasmodic action

by a little time and tact, he disengaged it with a violent jerk, lacerating the œsophagus and some large blood vessels, causing the death of the little patient before she was removed from the operating-table.

These unhappy cases subsequently greatly impaired the usefulness of this skillful and sensitive surgeon. The public severely censured him for two, the only surgical mistakes he perhaps ever made, and, as he was the only established surgeon in his part of the State, many afterward had occasion to regret it, as he would no longer assume the risks of formidable operations. The doctor did wrong to assume this position, which I think is not tenable for a capable, conscientious, and skillful surgeon. The fact is the surgeon is in duty bound to run any risk with his patient, where there is but the smallest chance of saving or prolonging life. Where the patient is in that condition that it is certain death without the operation and a probable recovery by an operation, although the chances may be one against a thousand, the brave and humane surgeon has a duty before him from which he will not swerve.

For myself I practice what I teach, and, perhaps, owing to it, I have been called upon to perform some of the most formidable operations in surgery. But to protect myself against an unjust criticism I perform no capital operation without the counsel and the co-operation of a Medical Board. Sustained with good reasons for operating, I never yet failed to secure the unanimous consent of an intelligent Board of physicians to perform an operation, and to have them share with me the responsibility of the case. Without this unanimous co-operation, where the surgical operation is one of great risk, the surgeon had better decline performing it. Like a legal jury, such a Board should close its counsel with an unanimous understanding; and the man that stems the opinion of the majority, and perhaps afterward assists in the operation, is entitled to our commiseration; for, depend upon it, he is likely to become the oracle of a damaging censure on the surgeon should he fail to save his patient; but, should the patient recover, he will not hesitate to come under the glory of the operation! Pursuing this course, an unjust criticism can not reach the surgeon; for if he serves the Board, and the Board the patient, and

the patient dies, and everybody is to be blamed, it is nobody's business to find fault.

It is a great misfortune for a surgeon to lose his presence of mind in an operation. He should studiously guard himself against a mishap of this kind, which may not only compromise his reputation as a surgeon, but even the life of the patient. Be ever ready to meet any emergency that may present itself. If you are, the most miserable of embarrassments is not likely to take place. However, if it should occur, either in medical or surgical practice, it is a good rule not to act at all, rather than to act when you don't know what you are about.

I have had a little experience in this matter, enough to guard against it in the future. Many years ago I gave special attention in operating for the radical cure of hernia—a method of my own for which Gross gave me credit in the first editions of his work on surgery. One peculiarity of that operation was to invaginate an ivory ball within the inguinal canal, which was held in its place by a cord passing through the walls of the abdomen and retained from the outside by a perforated pad, with a small winch or windlass on the outside to receive the cord. The ball was retained until a general adhesive inflammation closed up the canal. After this was effected the ball was removed. I think it was my third case I was not able to extract the ball. Instead of leaving the ball to work its own way out, which would have occurred, I nervously took up a scalpel and cut the ball out. In this operation the hemorrhage was frightful, as the operation for the radical cure had brought about a high vascular organization of the parts. The patient recovered, with a radical cure of the hernia; but for want of presence of mind I subjected the patient to a painful and dangerous operation.

After the close of the late war I held the surgency of a medical institution in the city of New York, and one of my capital cases was the extirpation of a uterine tumor that weighed twenty-five pounds—an operation I performed in the presence of several surgeons. I commenced the operation for ovarian tumor. Made my incision from the umbilicus to the symphysis pubis, exposed the tumor, and proceeded to enforce paracentesis. But instead of the appearance of serum we had the flow of blood. Owing to the size of the tumor the wound gaped fearfully, and

there was no possibility to recede with the operation. We had no alternative but to go through with it. In fact a terrible crisis presented itself—indeed, some of my assistants had lost their presence of mind to such a degree as to impair their services in the operation. An army surgeon who was present and had seen considerable service advised me to lay open the tumor with a scalpel. I replied, "If I comply with your advice I will lose my patient in the operation." I took a scalpel and quickly extended my incision to the ensiform cartilage, tore away the adhesions and turned out the ponderous mass, and then removed it from the pedicle with the ecraseur. Not much blood was lost; still the reaction was imperfect, and I lost my patient in a few days.

The tumor was presented to the Pathological Society of the city of New York, who appointed the eminent and learned surgeon and pathologist, Krackowizer, to make a report on the nature of this extraordinary tumor. He did so, and unkindly criticised my error in diagnosis, and in particular found fault that I did not determine the nature of the tumor by the use of the uterine sound. I was not in the city when he made his report; therefore I had no opportunity to explain why, owing to the size and packed nature of the tumor, I was led to think that the uterine sound would be of no service to me in making out a differential diagnosis. The case had been diagnosed ovarian tumor by several of the most distinguished surgeons, and the mistake I made was to allow myself to be too much influenced by such high authorities, which perhaps led me not to make that critical examination I would have made otherwise.

For nearly a year I withheld the report of this case, although I was strongly urged by Prof. Storer, of Boston, and others of New York, to do myself the justice to give it immediate publication. Instead of that I kept a naughty eye on Krackowizer's surgical practice, which, owing to his connection as surgeon-in-chief of the New York City Hospital, was very extensive. Finally a case was brought before this infallible surgeon, who, after carefully using the uterine sound, he, with an able counsel, diagnosed it ovarian tumor. Krackowizer operated, and, after removing the tumor, to his astonishment found it to be a uterine tumor. The patient died, and he gave us a faith-

ful report of the case, but without removing the stricture he placed on my case.

I was now prepared to produce my report, which I did at the Convention of the Columbia County and Berkshire Medical Societies, that meet at Lebanon Springs, N. Y., and afterward, by the request of the editor of the New York *Medical Record*, reported the case for that journal.

This case taught me an important lesson, and that is, make out your own diagnosis, and be not governed by the opinion of any one, unless you are sure he is right. It is not safe in our business to take things for granted; and yet this is the besetting sin of the medical profession. We nearly all are too much inclined to take for granted what we hear in the lecture-room, read in books and medical journals, or what is said by medical men that are prominent by their practice and position.

Let me give you an example how medical men can deceive each other. About twenty-five years ago a highly intelligent physician sent for me, who thought he was almost in a dying condition with biliary calculi. I found him in bed, bolstered up with pillows, and so fearful was he to make the least movement, for fear that a stone might obstruct the *ductus communis choledichus*, and kill him, that he was almost afraid to speak. He gave me a most intelligent history of his case as a disease of stones in the gall-bladder. He was very careful to tell me that he had consulted some three or four medical professors and more than twenty experienced physicians, and they all agreed with him as to the diagnosis of his case. He attempted to make out a diagnosis for me, that was as clear as day and beyond all doubt. As he passed most learnedly through the history of his case I did not once interrupt him. After he had finished he asked me:

"Well, now, what do you think of my case?"

I answered: "Did you ever see any of your gall-stones?"

"Yes, sir; I found them two or three times in my fæces?"

"Of what size, and how many at a time?"

"About the size of a filbert, and about a small handful at a time."

"What did you take to cause their expulsion?"

"A hundred grains of calomel each time. I know when the gall-bladder is full of them by certain hepatic and epigastric symptoms."

In the humor of Mark Twain I asked my learned friend:

"Please tell me how it is possible for a hundred grains of calomel to squeeze out of the gall-bladder a handful of biliary calculi?"

The doctor was quick to see the ridiculousness of such therapeutics and evaded the question. But under a great excitement he said:

"Do you wish to intimate that these stones are not from the gall-bladder? Have you a diagnosis at variance with that of my medical counsellors, many of which stand at the head of the profession? Then what are these stones, and where are they from?"

"These stones are no gall-stones, but intestinal concretions of the duodenum. After they have accumulated, any active cathartic that has a special effect on the duodenum, as calomel has, will expell them. As to the diagnosis of your medical advisers, in the first place, you deceived yourself as to the nature of your disease, and then, with fine tact and intelligence, you deceived them."

Inspissated ox-gall, taraxicum and nux vomica, speedily cured the doctor of a disease that had kept him in a most miserable suspense for years.

In 1860 I amputated at the hip-joint and lost my patient under peculiar circumstances. I so conducted the operation as I thought would lessen the tendency to mortality. It is generally known that the mortality of amputation of the leg increases as we approach the abdomen, and consequently it stands at the highest point in amputation at the hip-joint.

To explain the position I took in this operation I will give you a brief extract of my report of the case published in the Boston *Medical and Surgical Journal*:

"In examining into the statistics of the mortality resulting from amputation at the hip-joint, let us examine, to meet a special purpose, into those of two other formidable operations, namely, excision of the hip-joint and amputation at the thigh.

"In amputation at the hip-joint, according to Roux, 1 in 2 proves fatal.

"In amputation at the thigh, according to Bryant, 1 in 7 proves fatal.

"In excision of the hip-joint, according to Price, 1 in 15 proves fatal.

"We have, then, an average from the two latter operations, 1 in 11 proving fatal. Now, here I conceived the

idea, in order to give my patient the best possible chance for recovery, not to amputate at the hip-joint in any of the usual ways, but to submit him to the double operation of amputation at the thigh, high up, to be immediately followed by that of excision of the hip-joint."

In another place of that report I attempt to account for the great mortality of amputation at the hip joint, not caused either by shock or hemorrhage, by saying:

"We are inclined to connect the causes of this mortality not with the joint, otherwise excision would be as fatal as an amputation, but rather within the integuments of the thigh in its juxtaposition with the abdomen. If this is so, then the *morbi locus* is either confined to the blood-vessels, in the shape of phlebitis, or to the nerves, as neurilemmatitis. The close proximity of these affected parts to the spinal and circulatory center of the body is very likely to prove highly injurious, if not fatal. We see, then, the importance in amputating at the great joint to leave sufficient integument of the thigh to keep its reparatory inflammation away from the abdomen and spinal axis."

I will here add, I enforced this extraordinary operation to protect Scarpa's triangle, and place it away from all pathological influences—to lessen the surgical shock and in particular with the view of economizing blood. I will not reproduce the details of the operation, but will simply state how these advantages were secured.

Chloroform was administered; digital compression of the femoral artery resorted to; amputated the thigh at the upper third; to control the stump a wooden handle was thrust into the medullary opening of the femur. The external incision for excision was made; the head dislocated; a watch-spring knife was now slipped over the head of the femur, and with a few tracting movements shaved it out of its bed. A reliable assistant closely followed the knife, and secured every artery with artery forceps the instant they were cut. In this operation less than half a pound of blood was lost, favorable reaction set in, and in a few hours afterward the patient asked for food, was cheerful, and did very well.

In my temporary absence, several hours after the operation, by the patient's own imprudence, he excited a hemorrhage from the stump, though, slight as it was, it was followed by a fatal collapse. When I saw him the

hemorrhage had ceased, and a clot of blood had formed within the flaps. To comply with what is considered good practice I did not disturb this clot. But why could I not bring about reaction the second time? What killed my patient? It was not the loss of blood, and hardly the original shock from the operation. The cause was evidently blended with the hemorrhage. Was it owing to the presence of that clot that caused the same frightful depression we often have immediately following puerperal hemorrhage, with a clot of blood within the uterus? I am now under the impression that I made an error not to remove the clot. Where they are retained with no outlet whatever, they fearfully depress the system, physiologically in the same manner as would a protracted douche.

In a personal interview with Prof. Weber, of the Cleveland Medical College, he thinks that my mode of operating for amputation at the hip-joint is impracticable, except where the upper femur is in a state of necrosis, or otherwise badly diseased. I assured the professor that he was of that opinion because he underrated the efficacy of my flexible knife. Without this instrument I would not attempt this operation under any circumstances, and even in excision of the shoulder-joint I found it an invaluable instrument.

I had an interview with Prof. Gross, a short time after he performed his operation of amputation at the hip joint with success. He thinks that the complication of the operation, and the time it takes to perform it, is an objection to it. I dislike to dissent from the opinion of my old teacher; but if he holds to the opinion, what is almost universally practiced by surgeons, that the quicker an operation is performed the less is the degree of the shock, it is a doctrine that does not hold good in nature. How terrible may be the accidents on a railroad—it may occur in a second and all is over—but how terrible is the shock to almost every one that is injured. And very often there is no difference between the traumatic and surgical shock. Generally it is desirable to do away with a surgical operation, if possible in so many seconds, but if it should take as many minutes, would the constitutional shock be greater? I think not, and I am sure it would be less, where, at the expense of time, we save the most blood.

Electro-cautery is about to revolutionize the practice

of surgery, and it will yet prove the safest agent for all amputations. Its application in amputation at the hip-joint, where time is no object, should be preceded by tying the femoral artery, then collateral circulation counteracted by putting the leg in a uniform compress. In about ten days or so the leg would be prepared for amputation by the electro-cautery. In this operation there would be comparatively no loss of blood, and the system would be so gradually invaded with this great operation as to cause little or no shock. What would our learned medical fathers say to such a complication? Would they not think it rather *gross* for us to forge a knife out of thunderbolts to do our amputations with?

It has been my experience to perform many operations, in which the peritoneum was involved, and it may be a matter of surprise to those that adhere to the belief that it is always dangerous to cut into the peritoneum, that I never had yet to contend with a fatal case of peritonitis. My experience goes to show that there is something more than a cut necessary to induce fatal peritonitis. It appears that fatal peritonitis only developes itself, first, by the contact of some foreign body to the peritoneum; and, secondly, by a specific vitiated condition of the system, in particular in the puerperal state.

In many fatal cases, where the peritoneum is the seat of the disease, we have another form; but the patient is not destroyed by peritonitis, but by what we may call a peritoneal shock. Allow me to give you a few examples of this form. In the battle of Antietam one of my orderlies was struck on the abdomen with a piece of a shell. I noticed immediately after receiving the injury he was thrown into a great constitutional depression. He turned pale, deathly sick, and large drops of sweat covered his forehead and face. I examined the abdomen and found not the least sign of injury, not even ecchymosis. He died in a few hours.

In my Surgical Institute, in Rochester, N. Y., I had a patient with scirrhus of the stomach. One night the case terminated in perforation. Immediately great constitutional depression followed and the patient died the next day. A *post-mortem* revealed no peritonitis. These cases are numerous, and they show that the serous system holds a very close connection with the nervous system. May not this throw some light on the pathology of such dis-

eases as *coup de soleil*, cardiac metastasis from rheumatism, and other diseases that suddenly and mysteriously destroy life, of which the knife reveals no cause.

However, my last operation on the peritoneum proved fatal, but neither from peritonitis nor from a peritoneal shock. The patient was a country merchant who had ascites, and before I saw him had been tapped several times. Under my treatment I tapped him twice. The dropsy did not appear to be connected with any organic disease of the kidneys, heart, or liver, but was the immediate result of some diseased condition of the peritoneum itself. The patient's own confession was that if it was not for the dropsy he would be as well as ever. The dropsical pressure not only kept the patient in misery, but had a very damaging effect on his general health. After my last tapping I left in the opening a small silver canula, an inch long, to prevent further accumulation of fluid. I enjoined him to remain quiet, to take nutritious food, and ordered a preparation of syrup of iodide of iron, with a little colchicum; and likewise that he should maintain a uniform abdominal compression. For several days he did remarkably well, and at no time did he suffer with abdominal pain. Finally he demurred to what he considered an unnecessary confinement; got up, and playfully told his wife that he was strong and well enough to kick down the walls of his chamber, and at the same time going through the actions, as if he was going to enforce what he thought he could do. That afternoon he felt weak, and sunk into a state of great exhaustion toward night. As the exhaustion gained on him so increased the discharge from the canula. Finally the discharge of the serum became so profuse that it not only saturated his bed, but the fluid ran in a stream from under the bed across the room. This tremendous exosmosis of serum terminated into a fatal collapse. At no time had the patient symptoms of peritonitis. As my patient lived forty miles from my place of practice I had no opportunity to see him in this critical condition, but could I have anticipated the exosmosis I should have attempted to prevent it by the constitutional effect of turpentine, joined with absolute rest. Perhaps rest alone would have sufficed. Rest was enjoined as an important feature of our treatment, not as prophylactic of exosmosis, but of peritoneal inflammation. I think the man died by his own impru-

dence. However, through the influence and efforts of a local Paracelsus Bombastes Furiosa, I got the credit of killing him.

The introduction of the canula into the abdominal cavity, and to leave it so as to drain the serum as fast as it is secreted, is an experiment that has been tried by several surgeons. Of several reports I have seen, where this operation was resorted to, it afforded permanent relief only to one or two cases, and in no instance do I remember that the presence of the tube excited fatal peritonitis.

I have repeatedly administered spirits of turpentine prophylactically to prevent hemorrhages and serous effusions, with fine effect. As prophylactic treatment is a subject of great interest, and not generally appreciated, I will give you a few instances showing its great importance, in particular, in the management of malignant epidemic diseases.

About fifteen years ago I was called upon to render services in a neighborhood in Central Illinois where they had an epidemic of the "black tongue." The physician of the place in one month lost forty cases out of forty-seven. He treated the disease principally with calomel, opium and quinine, and as soon as the hemorrhagic diathesis developed itself the patient was sure to die. All those he saved never bled. The hemorrhage was liable to take place from any part of the mucous membrane. In my cases I enforced an early treatment to preserve the natural constituents of the blood—the fibrin in particular. Therefore I eschewed all mercurials. The turpentine was administered as a prophylactic to prevent that sanious exosmosis that was the harbinger of death. Turpentine, quinine, pyroxilic spirits, ipecac and milk-punch were the principal medicines I brought to bear against this disease. Thanks to turpentine I did not lose a single case.

Immediately after the close of the war there prevailed a disease in Springfield, O., called by the physicians of the place typhoid gastritis. The fatal symptom of the disease was an excessive vomiting, and the mortality of the disease was great. At the time of this epidemic I passed through that city on my way to New York. Spending a short time in the city, one of the principal physicians of the city solicited my counsel in a case of a

young lady where the ominous symptom of vomiting had just been established. The doctor was sorely baffled with the case, and at first I had nothing to suggest to relieve him of his embarrassment. Believing that there was some feature about the disease that was not understood I asked him what diseases prevailed in the city prior to the appearance of this disease. The doctor's answer was not very definite, but the mother of the patient, a very intelligent lady, was present, and remarked that they had in their own family, four weeks before, a case of erysipelas. The doctor remembered the case and several others he had under treatment at the same time. From these and other circumstances I assumed the position that the gastric inflammation was of an erysipelatous nature and should be treated as such. For our patient I recommended muriated tincture of iron, with hydrocyanic acid. The medicine was administered and the first dose checked the vomiting. The medicine was continued as a curative agent, and the patient made a speedy recovery. The doctor afterward informed me that this medicine had the same magical effect in other cases, and, as a prophylactic agent, not only prevented vomiting, but established convalescence in a few days.

It is not often that a surgeon makes a mistake which results in favor of the patient. Such a mistake I once committed in my hospital practice in Nashville, Tenn., in the time of the late war. About three o'clock in the morning one of the surgeons of the U. S. Hospital, No. 1, came to my quarters, asking me to see a surgical patient in his ward that was dying from some mysterious cause. I quickly repaired with the doctor to the bedside of the patient, and found him in a state of insensibility, with a respiration that was interrupted and fearfully slow. Each breath appeared to be his dying breath; still his pulse, and the general vascular respiration, when he did breathe, did not indicate that he was exactly in the throes of death. The pupils were contracted, but the ward-master assured us that the patient had taken no medicine of any kind. I quickly examined the epiglottis, but found no œdema there, but a total absence of tonicity of its ligaments. When he breathed I noticed a marked passiveness of the larynx—so much so that I attributed the cause of the asphyxia to be seated in that organ. With this idea, without further investigating the nature of the case, I hurriedly

demanding surgical instruments and quickly performed tracheotomy. When I took up the knife to operate, respiration had ceased entirely, and my assistants feared that the man was dead. After the opening was made into the trachea, we resorted to artificial respiration, and in less than twenty minutes after the operation, to our surprise, the patient raised his head and with some alarm gazed around him, and asked what had happened to him. After he was out of danger, we made further inquiries in regard to the history of the case, and learned to my disgust that I cut the man's throat for opium-poisoning. It was well for the patient that I did not know this at the time of the operation, for then, with my views of the pathology of opium-poisoning, which are current in the profession, tracheotomy would have been the last remedy I should have thought of in such a case.

This case proves that the immediate cause of death from opium-poisoning is a paralysis of the ligaments of the epiglottis and the laryngeal muscles. For want of a free ingress of air into the lungs, the blood becomes gradually carbonized, producing secondary soporific effects on the brain. The case proves that it would take a very large dose of opium to kill a person where he had a bracheal opening to breathe through.

There are several very interesting features about this case, but the one that I wish to direct your attention to, in particular, is the question of operating on patients that are apparently in a hopeless condition. That thousands of lives are lost for want of courage and a persistent perseverance on the part of the practitioner to snatch the patient out of the very jaws of death, is admitted by all.

I will close with a few examples. A boy had compound fracture of one of his legs, which in a few days ended in general gangrene, with great constitutional depression. I was sent for from the adjoining town as consulting surgeon, and advised immediate amputation in order to save the life of the patient, for the reason that the depression was not from a traumatic cause, but caused by the gangrene itself. I remarked to the attending surgeons, "Remove the cause of the depression and you may be able to bring about reaction, and save your patient." They did not agree with me, but gave me to understand that it would be criminal to perform this operation, which would surely hasten the death of the patient. From such re-

marks, that put us not in a very formal attitude, as I took up my hat to depart, I remarked: "Gentlemen, do as you please, but if he was my patient I would cut his leg off before I left this house, and, by doing so, in all probability save his life—without the operation he will surely die." The father of the boy, who had secreted himself to hear the counsel, heard what was said. After I was gone the father demanded the attending surgeons to amputate the limb, and if they declined he would dismiss them and place the case in my hands. They amputated the limb, favorable reaction followed, and the patient got well.

Sergeant Phillips, of the 1st Virginia regiment, was wounded in a skirmish, the ball passing through the soft parts of the left thigh, entering Scarpa's triangle of the right thigh, fracturing the femur high up. The ball was lost in the wound of the fractured limb. After the injury he fell into the hands of the enemy, and was taken to the hospital and there examined by several surgeons, but, owing to the unfavorable prognosis, no operation was attempted. A few weeks after he was wounded his friends got permission to take him home, which was eighteen miles south of Buckannon, W. Va., having to be carried for the distance of a hundred miles on stretchers. After he was at home a month or two he was taken to a United States military hospital in Wheeling, Va., where for several months he was seen by many different surgeons, who took the same view in regard to operating that was held by the Confederate surgeons who saw him first after he was wounded. He was accordingly discharged from the service and returned home.

In 1863 I went into winter quarters with my regiment in Buckannon, and then was asked by one of his physicians to visit him, with the view of removing the limb by an amputation at the hip-joint. The patient lived within the line of the enemy, but, on account of the extraordinary nature of the case, and believing that I might save the life of a brave soldier, I determined to see him. Accompanied by a guide we reached the place of his residence, where I met his family physician. I found the patient in bed, very much emaciated, with the left thigh enormously distended. There were several fistulous openings scattered over the thigh. The original opening in

Scarpa triangle made by the ball had closed up. He told me that he was wounded nine months before.

After the examination I concluded not to amputate at the hip-joint (the operation so generally recommended by the surgeons that saw him), should an operation be attempted, but made my preparations to make a bold dissection for the extirpation of the ball and the necrosed bones, which were the source of all present mischief.

My assistant put the patient under the influence of chloroform. I made quickly a deep incision, six inches long, from what I supposed to be from the trochanter major down the femur. This cut brought me into a large cavity that was filled with pus and coagulated blood, which I scooped out with my hand. After the cavity was cleaned out I discovered that I missed the line of the femur, for after the fracture the adductors had drawn the fractured ends of the bone into the gluteal region, and there the union of the bone was established. In order to reach the seat of the difficulty I now made a transverse incision, about six inches long, giving me a triangle flap. I had now access to the place where the femur had been broken, and found the ball very much flattened and wedged between the fractured ends. It was partly encased by an osseous formation, and two sharp points of the ball projecting into the soft integuments. I applied the bullet-forceps to the lead to twist it out of its bed, but broke the instrument in the attempt. Another forcep which I had in reserve I used, but that likewise gave way. I found myself now in a fine fix—in the midst of one of the most formidable operations and no suitable instruments to go on with. But before I cast aside the second broken instrument I determined to proceed at once to bring about a surgical fracture of the femur, knowing that the weakest point of the bone is that part that held the ball. I raised up the thigh, placed my left knee as a fulcrum under the seat of the fracture, and with a single firm blow with my right hand on the patient's right knee broke the bone in two. After this with my fingers I picked out the pieces of the ball, which were in two pieces and very much flattened. I likewise removed all the necrosed bones, and cleaned out the wound with great care. The shock of the operation on the patient was terrible, even to the degree of an alarming syncope. We resorted to artificial respiration, and as soon as he was able to swal-

low we gave him stimulants freely. After reaction was established I proceeded with the dressing. I left the patient in the hands of the attending physician, in a very critical condition, in which he continued for weeks, but finally recovered with four inches shortening of the limb. This patient still lives, is a pensioner of the country, performs hard labor on his farm, and gratefully writes to me once a year.

How Many Functions Does the Uterus Perform?

BY JAMES BARNSFATHER, M. D., M. P. S., ENGLAND.

THIS is a question concerning which there is a great diversity of opinion. Some say that the uterus has *two* distinct functions, viz.: menstruation and utero-gestation. Others say it has more functions. Now I think that the uterus is subject to the same law that governs all the other organs of the body, viz.: a oneness of action. Who ever heard of the eye performing any other duty than that of seeing? It does this from the beginning to the end, and nothing else. The ear only hears, the stomach only has one duty to perform; so, also, the lungs, heart, kidneys, bladder, etc. Why, then, should the uterus be made an exception to the general rule? To my mind it is not.

Since I wrote my first article on the microscopical character of the menstrual discharge (*vide* Cincinnati MEDICAL NEWS, March, 1875), and its relation to the mucous membrane of the uterus, I have been frequently asked by medical men the question which heads this article, and I have invariably advocated the theory of the *oneness* of action of the uterus. Let us examine this matter for a few minutes, and we will see how many offices it performs. From birth until puberty the young uterus performs no functions. At puberty the uterus commences its work, which it does without or with pain, in exact ratio to the normal or abnormal condition of the organ. In menstruation the organ enlarges, and the lining membrane is shed, either as debris or in pieces, or sometimes whole (as in membranous dyomenorrhœa), these abnormal conditions being always attended with pain, as the uterus is performing its functions under dif-

ficulties. Moreover, we note that the pains in menstruation come and go, the same as the pains in parturition. We also notice that the ostincae dilates to a greater or less extent during the catamenial period, and gradually returns to its former condition at the cessation of the flow. As a matter of course in parturition we have greater dilatation, and we have the placenta and its attachments thrown off by the contractions of the muscular fibers of the uterus. These fibers perform the same office in the *minor process* of menstruation as in the *major* or parturient process. Yet their office is *one and the same in both processes*. The post-parturient process of involution is also repeated, in a very slight degree, in the menstrual process.

It is a wise provision of nature that each part of the animal economy has a certain duty to perform, which it does at all times with unfailing certainty, *modified only by some lesion*, and then it attempts to perform its part to the best of its ability by trying to overcome any difficulties or obstructions it may meet with. It is quite natural for the muscular fibers of the uterus to contract at the full term of gestation, in order to expel the contents in its cavity. Following the same rule it is quite as natural for the muscular fibres to contract at the minor operation of expelling the degenerated and now useless membrane during the term of menstruation. In the major process we sometimes hear of painless labors, and in the minor process we frequently hear of painless menstruation. In each case we have the membranes thrown off, with the usual muscular contractions, with this exception, that at the major operation we have a more complete and a more developed membrane thrown off. But let some lesion interfere with the normal action of the uterine muscularia and then we will have pain, caused by the extraordinary efforts they make to perform their natural function. We find this in cases of version, flexion and dysmenorrhœa, in all their forms, down to that most agonizing condition called dysmenorrhœa membranacea, where the membrane is thrown off entire, similar to that in pregnancy, although in a less developed condition. In the major operation, *e. g.*, as in the case of abortion, we have more hemorrhage at the next catamenial flow, as the blood-vessels are more enlarged and the separation of the membranes are more complete than

in the menstrual or minor operation, *but the fundamental principle is the same in both processes.*

In these few remarks I have confined myself entirely to the uterus proper, and do not include its attachments and appendages.

Discussion on Insanity.

IN the last issue of the MEDICAL NEWS we published the remarks of R. R. McILVAINE, M. D., in a discussion which followed upon the reading of a paper by Dr. PACKARD, in the *Medico-Legal Society* of New York. At a subsequent meeting an interesting discussion occurred on the reading of a paper by Dr. GEORGE M. BEARD. We give Dr. McILVAINE's remarks—ED.

Dr. R. R. McIlvaine asked the reader of the paper what the proportion of the insane in England and Wales is to the whole population?

Dr. Beard, quoting from Dr. Lewis' presidential address before the Psychological Society, which may be found in the *Journal of Mental Science* for October, 1879, replied that there were 70,823 lunatics in 1878, with a population of 25,000,000.

Dr. McIlvaine desired to know what proportion that gave?

Dr. Beard replied that he had not made that calculation; the information sought may be ascertained by a simple mathematical operation.

Dr. McIlvaine further asked the proportion of insane to the population in the State of New York?

Dr. Beard said he had not the statistics.

Dr. McILVAINE.—The proportion of insane to the population, in 1878, in England and Wales, was one in three hundred and seventy-three; in the State of Massachusetts, one in four hundred and twenty-three; in the State of New York, one in five hundred and eighty-seven; in Illinois, one in eight hundred and sixty-six; in Iowa, one in one thousand one hundred and one; and according to the Fifth General Census of Chili, 1875 (Dr. G. R. Brush, Hygienic and Medical Reports, Vol. IV., Navy Department), one in nine hundred and sixty-two. According to this showing, it will be a long time before the proportion in the States of Iowa and Illinois will be reversed—that the insane will be in the majority.

This question of insanity is always new and always old in a certain sense. On January 5, 1875, the Commis-

sioner in Lunacy for the State of New York published his report for the year 1874. In this report he thought, as he began to read it, that the great problem had been solved, and that he could exclaim, in the language of the immortal Luther, "It was found at last;" but he had pursued his researches but a little way when he found that this was a delusion, and that the real cause of insanity was as obscure now as it was fourteen hundred and fifty-one years before the Christian era, when Moses, in his declaration in Deuteronomy xxviii. 28, threatened the Israelites with a visitation of Egypt, with madness and astonishment of heart, as a sequel to the violation of his laws. The language of the lawgiver is, "The Lord shall smite thee with madness, and blindness, and astonishment of heart." This is the first place in which the word "madness" is found in the old Book. It is not heard of again until 1,062 years before our era, and it may be found in 1st Samuel xxi. 13: "And he changed his behavior before them, and feigned himself mad in their hands, and scrambled on the doors of the gate, and let his spittle fall down upon his beard." David saved himself by feigning madness before the King of Gath. He must have seen and known what were the peculiarities of madmen, as he succeeded in deceiving this distinguished monarch and his associates with his affecting madness and escaped unhurt.

It is true that the commissioner tells us that we have de-demonized insanity. It may be true in his individual case, and in that of the President of the Society, and the speaker and some others; but the great majority of mankind have a latent feeling and belief that there is something supernatural in connection with insanity.

Gentlemen were aware that recently some specific charges were made by a society in this city in relation to the treatment of the insane. As he understood from the documents received, the movers in these reforms had permitted themselves, in the language of the law, to be "non-suited," by reason of the fact that they were not prepared with the data, or if they had them, they were not sufficiently available for purposes of meeting their opponents. Year after year since 1872—the year when so many charges were made concerning the insane—there had been an accumulation of facts in regard to neglect

and what may be termed *imposition* on the insane; and yet they were all passed over!

To turn again to the report of the commissioner: He gives us the details of the insane in each county of the State; he tells us that insanity can go on only after a protracted degeneration of what he calls germs and deteriorated growth. Then he touches upon the expense of these insane paupers; and we are informed that on Blackwell's Island for 1,787 patients, the cost per capita was \$1.46 per week! Now most of the members present reside in the city—many resided here in 1874, the date at which this fact applies—and they were no strangers to the price of living in that age; and if they could imagine and believe that a full-grown man could subsist on one dollar and forty-six cents per week, he had no doubt that they would join him in saying that this was adequate cause in producing madness. This amount would, at that time, hardly purchase a decent lunch; and yet these paupers cost only \$1.46 each a week! It is true that the six hundred and sixty-two patients on Ward's Island received \$1.83 per week, and on Randall's Island they received \$1.52 per week! This, when compared with that aristocratic institution over the way—the Bloomingdale Asylum—where the sum of \$20 is exacted in advance per week, is an astounding exhibit! \$1.46 per week—\$20 per week in advance! And this statement is made without any apology on the part of the commissioner, without any explanation, or protest, or recommendation for the amelioration of their condition!

He had been reflecting upon the claim made by the orator of the evening, that insanity is caused by the activity of the brain of mental workers, and he was astonished that the conclusion is forced upon him that mental workers throughout all ages of the world's history have not been afflicted with insanity. He had gone back in memory as far as the days of Thucydides, who was twelve years the junior of Herodotus, who was born four hundred and eighty-six years before our era. From that day down to the time of Baron Von Humboldt, we do not find that the real intellectual workers ever became insane; and the unduplicated men of the fifteenth century—that century which produced such a galaxy of great men—beginning with Guttenberg in 1408 (the inventor of the art of printing); then passing, to Zemnes, the Archbishop

of Toledo, viceroy of Spain, and author of the Polyglot Bible; next in order, to Columbus, 1435; but time would fail to name those immortal men, of whom Leo X., who became Pope in 1513, was one of the greatest lights; none of these were insane. Then we come down to the days of the American Revolution, in the eighteenth century, and we find that of the fifty-six signers of the Declaration of Independence, the majority lived near the time appointed for manly life—threescore years and ten, and others, in number, surpassed it—and to the time of the French Revolution, which produced so many great men, not only in the army and state, but which did more for science than any other event since the beginning of the Christian era.

Then again, the orator of the evening tells us that the Anglo-Saxons are more addicted than any other race to insanity, while he admitted that he used the term Anglo-Saxon in an imperfect sense. Now, if imperfect, if Anglo-Saxon is a wrong word to use, why use it? Are the people of the United States Angles or Saxons or Jewts? Are the people of New York, in a particular manner, Angles or Saxons or Jewts? He would be glad to receive a reply, and in replying he would begin with the men whose names are inseparable from the glory of the State. The first was Schuyler, who was a Hollander by descent; the second, Herkimer, a German; the third, Jay, a Frenchman; fourth, Livingston, a Scotchman; fifth, Clinton, whose name has become a national name, an Irishman; sixth, Morris, a Welshman; seventh, Hoffman, who was a Swede; eighth, Steuben, a German; next, Alexander Hamilton, who was either Scotch or Irish. These nine names are inseparable from the early history of this State, and neither of them had a drop of Angle or Saxon or Jewts blood in their veins as far as we know. There are four other names, and these together constitute the thirteen immortal names connected with the early history of this State; they are the gentlemen who signed the Declaration of Independence—among others. The first was Wm. Floyd, of Long Island, his father's family was from South Wales; the next was Philip Livingston, a Scotchman; then Francis Lewis, Welsh; then Lewis Morris, a Welshman. Of these four, three are of Welsh extraction, and the other (Livingston) was of Scotch extraction. We also know that the Saxons were conquered

by the Angles, and the Angles gave their name to the island in 825, when Egbert ordered the island to be called Angle's Land—he having conquered the Saxons. These facts every tyro knows to be the truths of history, and he also knows that, taken as a sample, they disprove the assertion that the Saxons furnish the largest quota of the insane.

Dr. McIlvaine said that, at the last meeting of the Society, he took the ground, first, that insanity is not on the increase; and, secondly, that mental workers are not the class who are most subject to insanity.

He was not in the habit of carrying books, but he had with him a slip of a newspaper containing a portion of the report of the Commissioner in Lunacy for the year 1875. In his report he says that "insanity is steadily on the increase, and its ratio is at times in excess of the growth of the population." He attributes insanity to imperfect nutrition; and judging from the fact that on that little continent, known as Blackwell's Island, where the rate of cost *per capita* is \$1.46 per week, he (Dr. McIlvaine) had no doubt but that this is a very potent cause! Finally, he attributes insanity and its growth to imperfect nutrition, breathing a vitiated atmosphere, abuse of alcoholic stimulants, and more disastrously than all, to the indulgence of the lower passions.

Dr. McIlvaine would like to know whether it is true that contaminated atmosphere caused insanity. It had been demonstrated that insanity is not due to a vitiated atmosphere, nor to an abuse of what has been called "the lower passions," an abuse which he did not recognize; and that immunity from insanity does not consist in pure air.

He was not in a condition to speak from personal experience, but would use the report of Dr. Parsons for the year 1867. He says:

"There was an advance in that year (1867) of 15.50 per cent.; in 1868, 12.92 per cent.; in 1869, 12.63 per cent.; in 1870, 10.69 per cent.; in 1871, 5.12 per cent.; mark the descent, it is gradually less: consequently, there is no such thing as the future of insanity; *that* is a romance. In 1872, 11.68 per cent.; in 1873, 6.49 per cent.; in 1874, 8.48 per cent.; in 1875, 7.47 per cent.; in 1876, 10.30 per cent.—ten consecutive years!"

The next point which he desired to touch upon was the question of the influence of the lower passions in their relation to the causation of insanity. There are no lower passions. Every desire that human beings legitimately exercise and gratify is proper. It is one of the romances of the profession to assert the contrary. When men do not know what the cause of insanity is, as they do not, as the question, we have already shown, is an open one, they lay the blame to the passions.

But to return to the subject in hand. He, Dr. Beard, stated, on a former occasion, that the intellectual workers are, as a class, those who are subjects of insanity. It was not necessary to go over that ground again. He went back on that occasion to the time of Thucydides, who was twelve years the junior of Herodotus, the father of history, 6 B. C. 486, down to and including the men of the eighteenth century, and he failed to find any insane men among the mental workers of that period. In fact, if there is any class which may be considered as exempt from insanity, history has demonstrated this to be that class. By mental workers he did not mean those who go into the pulpit and read sermons and sing psalms—they are not, strictly speaking, of the class; but he referred to original thinkers, those whose advanced ideas and mental labors have influenced the world's history, as Franklin, who is said to have tamed the lightning, and Fulton, the inventor of steam navigation.

Now we learn, from Dr. Parson's report, that on Blackwell's Island, in 1875, forty-three of his patients were farmers' daughters; thirty-seven were wives of laborers; and twenty-six were domestics. These were the largest contributions of any other classes.

In addition to the above, he cited the following facts: In the report of the Willard Asylum for the Insane, New York, for the year 1877, we find that the number of patients admitted were: house-workers, eight hundred and two; teachers, forty-four; seamstresses, thirty-three. Only a few representatives from other occupations were inmates of that institution.

Ward's Island, Dr. Kellogg's Report: On January 1, 1873, there were four hundred and sixty-nine patients in the institution; admitted during the year, three hundred and ninety-two—making a total of eight hundred and

sixty-one. Among these were laborers, seventy-nine, and clerks, twenty-four.

Ward's Island, 1876, Dr. Macdonald's Report: Admitted, three hundred and eighty-one. Occupations: Laborers, ninety-three; clerks, thirty-seven—representing the largest element of any other in it.

Dr. McIlvaine then directed attention to the report of the Lunatic Asylum of Central Ohio for twenty-nine consecutive years. The admissions for that period were four thousand nine hundred and one; of whom two thousand four hundred and thirty-five were males, and two thousand four hundred and sixty-six were females.

An accurate record has been kept of the occupations of the inmates for twenty-six consecutive years. The result is as follows: Out of these four thousand nine hundred and one admissions, one thousand three hundred and forty-five were farmers, three hundred and seventy-five laborers, thirty-seven clergymen, eighteen physicians, and nineteen lawyers.

Also the Columbus, Ohio, Asylum for the Insane, Report of November 15, 1878: Whole number treated, one thousand two hundred and twenty-six, of whom five hundred and eighty-eight were males, and six hundred and thirty-eight females. Occupations: Farmers, two hundred and three; laborers, one hundred and forty-two; lawyers, three, and physicians nine.

At the Northern Ohio Asylum, Report for 1867, there were treated two hundred and ninety nine, of whom one hundred and forty-four were males, and one hundred and fifty-five females. Of this number there were farmers, thirty-three; farmers' wives, twenty-nine.

The total number of the insane in State asylums of New York for 1875, as per Dr. Ordonaux's report, before referred to, were: Males, one thousand and ninety-seven; females, one thousand and seventy-seven. In county asylums and poor-houses, males, one thousand five hundred and ninety-four; females, two thousand six hundred and ninety-seven; in private asylums, males, two hundred and twenty; females, two hundred and ninety; making a total of males, two thousand nine hundred and eleven, and females, four thousand and sixty-four; or a grand total of six thousand nine hundred and seventy-five.

Now, this matter of insanity is not new. Men were cured of insanity before there were asylums; and they

were treated properly, too. The late Governor Madara, who was Governor of "Bleeding Kansas" at one time, told the speaker in 1840, that in 1830, when he was Marshal of Northern Ohio, and before an asylum was erected in Ohio, the number of the insane was alarming. The actual number could not be ascertained. Persons were shut up in out-of-the-way places and in upper rooms of the houses, being confined to staples in the walls with chains; and when the census was taken they were not counted in on account of delicacy. In the year 1838 the first asylum was erected in Ohio.

He believed that, instead of an increase of insanity, it is diminishing. We need not be alarmed that it will overwhelm the nations. There is a good deal of romance mixed up with the subject, just as there was with the question of school hygiene.

With regard to these questions public opinion must be set right.

Were it not that the subject is a solemn one, it were amusing to examine the reports of the insane asylums from year to year. They have their stereotyped moral and physical causes. Many of them dwell on tobacco as a potent cause. Dr. McIlvaine's experience among gentlemen connected with the asylums leads him to believe that most of them use that weed, and would be perfectly safe from being devoured by dogs should they fall dead in the street. He would state an exception to that rule. His friend, Dr. Joseph Webb, brother-in-law of President Hayes, who had charge of Longview Asylum, Ohio, never used tobacco.

In conclusion, he said: We have shown that insanity is not attributable to a vitiated atmosphere, nor to the abuse of what is called the lower passions, because we do not recognize them; nor to alcohol, *per se*; nor that immunity from insanity consists in pure air, healthy food, and sanitary surroundings. We have shown that it is a delusion to suppose that intellectual people are the subjects of it, and that it is them only who are selected as its mark. Hence we may sum up that the causes of insanity are as obscure now as they were when first discovered; and the question, which we carefully recommend to those who are in charge of asylums, is still open for investigation.

SELECTIONS.

Rectal Alimentation.

THE absorbent power of the mucous membrane of the lower intestine has long been recognized both in the use of nutrients and medicines, but recently a fresh impulse has been given to this mode of treatment by articles which have appeared from time to time in the medical press. Although the rectum is inferior to the stomach as an absorbing surface, yet its power of appropriation and absorption is of great importance when from any cause the stomach is unable to perform its ordinary function. Medicines of a decidedly unpalatable nature, such as turpentine, asafoetida, etc., are not unfrequently administered by the rectum, and especially so when there is any marked degree of irritability of the stomach, and such remedies have been found to produce the desired result almost as effectively as when administered in the ordinary way. Notwithstanding these facts, the subject of rectal alimentation and medication has up to the present time been considered a matter of merely secondary importance, and in many instances overlooked or neglected altogether. In the recent discussion on this subject, such as occurred in the New York Academy of Medicine last year, most valuable information in regard to rectal alimentation in its general application was elicited. In a paper by Dr. Austin Flint will be found a large number of cases in which the efficiency of this method was shown, leading to the assumption that "life may be sustained indefinitely solely by rectal introduction of aliments." Nutrition was maintained in a number of patients from three weeks to five years, the majority of them by rectal alimentation alone. In the present day the antiphlogistic treatment is almost obsolete. Most, if not all diseases, are being treated by the supporting plan; even in surgery the value of generous alimentation is fully recognized, and was ably advocated by Prof. Hamilton, of New York, a short time ago. The principle being established, it remains therefore only to show how the object can be best attained. Of course the most natural means, if adequate, is always the best, but if from any irremovable cause the function of the stomach is practically suspended,

rectal alimentation is clearly indicated. The materials usually employed are milk, raw eggs, animal broths, etc.; but since the publication of Prof. Leube's paper on rectal alimentation in 1872, the preparation he recommended has come largely into use, viz.: muscle of beef partly digested by an artificial process, and brought to a sufficiently fluid condition to be administered by means of a syringe. Quite recently desiccated blood has been brought under the notice of the profession as a new article for rectal alimentation. Some years ago the drinking of bullocks' blood at the abattoirs in New York and other places was indulged in as a cure for consumption and other wasting diseases, and not without benefit to the patients, but naturally enough it was disgusting to most persons. Transfusion has also had its day, and now we have the much more rational, agreeable and practical method of introducing blood into the system by the rectum suggested to us. This new method of treatment is no doubt worthy of trial, and the pharmaceutical chemists are prepared to supply it to the profession. The blood is first defibrinated, which does not destroy its nutritive properties, and afterward dried with the greatest care. Blood thus prepared and dried is completely soluble in water below the temperature of 160° F., and contains all the elements of blood except water and fibrin. When required for use it is dissolved in water in the proportion of one drachm of the powder to one ounce of water. The dose is from four to six drachms, which may be given at once or in divided doses during the day, as circumstances seem to require.—*Canada Lancet*.

The Prophylactic Use of Cod-Liver Oil.*

DR. THOMPSON began by remarking that next in importance to discovering a new remedy was the ascertainment of how it acted. This latter, indeed, may sometimes be of more importance, for such discovery may add to our knowledge of the pathology of the disease. Thus, if we knew how mercury relieved syphilis, we should know what syphilis is. There is one class of remedies, however, whose action we are beginning to learn something about.

* From discussion in New York Academy of Medicine, published in *Medical Record*.

These form the class known as restoratives. They are really only a kind of food, and as starvation is a very common condition, especially after febrile conditions, such kind of medicines is very often needed.

The way in which iron acts may be studied as an illustration of the rest. Iron enters into the composition of the red blood-corpuscles, and is essential to their functional activity. These corpuscles carry oxygen through the system. Iron is therefore a respiratory food. Now, muscular strength and activity is in proportion to respiratory activity, and the extent of respiratory surface. Insects have more proportionate muscular strength than mammals, because they have a larger respiratory surface. And so it is throughout the animal kingdom. When the blood-corpuscles, the oxygen carriers, are not sufficiently fed with iron, muscular weakness ensues. Thus, anæmia is a cause of muscular weakness; and the rationale of iron relieving the symptom is quite an evident one.

Our knowledge of the action of restoratives leads us to believe that they are the only drugs which can act as prophylactics. We can not understand how a purely foreign body can enter the system and prevent disease. We know that we can not prevent syphilis by giving mercury. We can see, however, that a substance which is a normal constituent of the economy may be given at a time when there is an especial drain on that principle, and thus prevent pathological changes which its diminution or absence might cause. The study of the use and action of cod-liver oil may lead us to conclude that this supplies a proximate principle to the economy, and may be used both to supply and prevent a diminished amount of that substance in the body.

History shows that cod-liver oil has been used from a very ancient date. Its extensive use, however, dates from 1849, when Bennett introduced it as a remedy for phthisis. Being a very complicated body, it was at first thought that its value was due to some of its peculiar chemical constituents. This is, however, hardly possible. Several of its organic constituents, such as the fatty acids, are the result of the chemist's manipulations. The inorganic constituents are so small in quantity that we should have to use homeopathic theories to suppose them to have any practical effect. Another theory is that the special action of the oil is due to its greater diffusibility, this be-

ing caused by the presence of biliary salts in it. This, however, is a false inference; for, in the first place, absorption is only one element, and we must explain the action afterward. Furthermore, it has been shown that emulsions of sweet-oil with ox-gall do not act as well as cod-liver oil, although very diffusible; and finally, it has been also shown that the lightest and purest oils, those freest from biliary constituents, are the best. The most satisfactory theory, therefore, is to suppose that the oil is allied in its composition to the highly complex fat of the blood, and that it supplies a natural constituent of that fluid. This theory is supported by the fact that cod-liver oil increases the number of the red blood-corpuscles. Now, it has been shown that the corpuscles contain the greater part of the fat of the blood, the proportion as given by some chemists being three in the corpuscles to two in the plasma.

From analyses of the blood of the portal and hepatic vein it would appear that in the passage of the blood through the liver, some of the fat of the serum is incorporated into the corpuscles, and it may be one of the functions of the liver to do this. The relative importance of fat in the blood is shown by analyses. There is double the amount of it that there is of iron.

The next question is, what is the business of the fat in the corpuscles? And here physical laws come to our help. By these, fat is shown to contain a very great amount of stored-up energy. A pound of ordinary tallow, for instance, has more stored-up energy than a pound of coal, or a pound of gunpowder. It contains more energy than albumen also, in the proportion of 38 to 18. The great business of fat, therefore, is to supply force. In the embryo a great amount must be required, and the late Mr. George Lewis was even led to propound the preposterous theory that the sole function of the spermatozoa was to furnish to the ovum a highly organized form of fat. He based this idea on the fact that spermatozoa are dissolved by ether. Fat bears much the same relation to the tissue-cells that steam does to the steam-engine.

With this view of the function and importance of fat, we turn to see what tissues contain the most of it in their composition. These we find to be the voluntary muscles and the brain. The brain, for example, contains 75 per cent. of water and 25 per cent. of solids, of which latter

15 parts consist of fat. The nervous tissue uses more fat than all the other tissues put together. Of course, adipose tissue is not to be reckoned in this connection, for it is practically stored-up fat and not a user of it.

Now, in view of this demand for fat on the part of the nervous system, we may study with special interest that period of childhood when the nervous system is growing most rapidly and when the demand for fat is greatest. Between the end of lactation and the sixth year the brain grows faster than at any other time. By the seventh year the head has often attained nearly its full size. Mothers are sometimes alarmed at the big heads of their children, and think that there must be something wrong about it. During these years the child acquires more than at any other period of his life. His perceptions are quickened, his memory taxed with the acquirement of language and all kinds of knowledge. The brain works better than it ever will again. All this puts a drain upon the system which renders the child peculiarly susceptible to certain diseases. After the ninth year the muscular system takes a start and its development becomes very rapid.

Now the rapid growth and great functional activity of the nervous system makes a demand upon the food-supply, and especially the fat. These special demands may lead to the impoverishment of other tissues. And those tissues will suffer first which are the least highly organized, and receive the least vascular nourishment. Thus we have resulting the corneal ulcer; then the cartilages degenerate, the epithelium of the skin and mucous membranes develops a depraved or diminished vitality. Scrofulous sores appear. Once establish a sore and the lymphatic glands become enlarged. For it is probable that the scrofulous enlargements of glands are caused by some previous sore with which the lymphatics connect them.

If the above views are correct, then the utility of giving cod-liver oil at this period of life is shown to have a logical basis. And we ought not to wait until the symptoms of starvation appear before giving the oil. The speaker had been in the habit of giving cod-liver oil to healthy children between the ages of two and seven, and he believed with benefit.

The usefulness of cod-liver oil in nervous diseases is also very apparent.

The paper being open for discussion,

Dr. S. Caro said that he agreed with the reader of the paper in thinking that cod-liver oil is of value as a prophylactic, and that it is to be regarded as a food rather than a medicine. He had known a poor family who were supplied with cod-liver oil through the kindness of a druggist, and who lived upon this to a large extent for a time. A girl in this family, which was a tuberculous one, had been suffering from chorea. While taking the oil she had recovered from it.

In the speaker's native country olive oil was much used as an article of food, and it was very nutritious. In the monasteries it was much used by the monks, especially in times of fasting, and the monks are, as a rule, quite fat.

Dr. Sell referred to the value of olive oil. He thought that this and butter ranked next to cod-liver oil in nutritive properties. He related the case of a female physician who had suffered for a long time from constipation and a whole train of attendant evils. She became too weak and emaciated to study or work. Finally, a diet, of which olive oil was a large part, cured her. Just before the siege of Paris one could see how much olive oil was taken to supplement the scarcity of other food. Dr. S. had found the external use of cod-liver oil with children of value. He also spoke highly of the emulsions of oil with maltine and pepsine or pancreatine.

Dr. Thomson said, in reply to a question by Dr. White, that the best time to take the oil was about half an hour or an hour after meals.

Dr. Richards spoke of the necessity sometimes of having a cheap substitute for cod-liver oil. He had known whale oil to have been taken with good effects.

Dr. Farnham spoke of the value of cod-liver oil in lupoid affections, especially when it was taken in large quantities—as much, for instance, as two pints a day. He had known of cases which did not get any better under a pint a day, but showed marked improvement when the quantity was doubled. He had himself taken nine or ten ounces a day without any digestive disturbance. It increased his weight very much.

At the close of the discussion it was announced that \$500 had been turned over to the Academy from the estate of Dr. White.

It was voted that the next regular meeting be omitted, and that the Academy adjourn to the third Thursday in June.

American Gynecological Society.

THIS organization commenced its fifth annual meeting in the rooms of the Law School in this city, Wednesday, September 1st, at 10 o'clock A. M., Dr. J. Marion Sims, of New York, presiding. Dr. T. A. Reamy delivered the address of welcome.

The first paper read was that of Dr. Robert Battey, of Rome, Ga., on the subject, "What is the Proper Field for Battey's Operation?" He read from notes, and seemed quite at home on a subject with which his name has been identified for years. In his well-delivered essay he said that in the application of "Battey's Operation" there was no question of choice, but only of necessity. It was not a matter of expediency to expel the ovaries, but a matter of strict duty, where other remedies fail. The case must be deemed incurable, it must endanger life, and a cure must be reasonably expected before the operation is at all justifiable. He had foreseen the difficulties of its application, and its variable conditions many years ago. He enumerated briefly when the operation is absolutely necessary, which is in case of a complete reclusion of the intro-vaginal canal in menstruomania, ovarian epilepsy, ovarian hernia, and a few other cases. He said it was idle to talk about sending a patient to the Virginia Springs or treating her with violent medicines whenever there are successive nervous perturbations, or symptoms of reason being destroyed or life being endangered. There is absolutely no cure in such cases by any other resources of the art. He insisted that it was better to sacrifice these pernicious organs than endanger life. He had treated fifteen cases, and was not convinced of any wrong he had done, though two of these had been fatal.

Dr. Battey's paper provoked considerable discussion. Dr. Forsyth Barker was the first to discuss its merits. He labored under a marked hoarseness of voice, but was listened to with great attention. He related three cases where Battey's operation had been used with success, and referred especially to the peculiar condition of a girl who

suffered intense nervous excitement from a shock of lightning, which undoubtedly had an effect on the uterus, showing the intimate relation between the nervous system and the ovaries. Dr. H. P. C. Wilson, of Baltimore, said that he had now a case in hands, where he intended extirpating the ovaries, and that he had lost one case because of his neglect of using the operation. Dr. W. H. Byford, of Chicago, expatiated on the evil effects caused by the loss of the ovaries. The patient is ever after subject to hemorrhages and general depression. He knew of one well-known case where the tumor had made its appearance again long after the operation, with worse symptoms. He expressed his belief, however, in Battey's operation, and had himself inadvertently performed it in removing a hernial tumor twenty-five years ago. Dr. A. Dunlap, of Springfield, O., thought it ought to be the dernier resort in extreme cases, and never had a case where the operation was necessary. In conclusion, Dr. J. Marion Sims, of New York, gave a brief outline of his experience in the matter, stating that Spencer Wells had used the operation successfully for the first time in England in 1878; that Dr. Alex. Simpson had performed it twice and Dr. Austin Tait as many as twenty-eight times in one year. He had eleven special cases in eleven months, and out of the whole number of twenty-eight only two died, because these cases were not well selected. He pronounced Dr. Battey's operation as perfectly legitimate in some urgent cases, and had recently performed four operations himself. One of his patients had died, though not from the effects of the operation, and one had not been cured, but had developed worse symptoms than before. He urged that the main point was to discriminate in its use. Dr. Thomas Wood, in his quaint original way, stated that he had never practiced Battey's operation, but knew a little about ovaries. He said he had come across a great many hysterical cases at parties and balls, and if Battey's operation could remove that evil it was quite an acquisition. He said that the destruction of the ovaries makes social life very unpleasant, and gave a remarkable instance of a woman, whose one ovary had been destroyed, and who nevertheless bore six children afterward, three of each sex. He seemed to incline to the opinion that life was more pleasant with the ovaries than without them.

The next paper read was by Dr. G. S. Engelman, of St. Louis. It was elaborate and provoked an animated discussion.

Upon general request Dr. Battey gave the points of his subject a second time, which, after a short discussion, was wound up by Dr. Sims.

In the afternoon session Dr. H. P. C. Wilson opened by reading a paper on the "Case of Ovariectomy Complicated with Pregnancy." He presented a large variety of facts. Out of twenty-nine cases he had saved twenty-four mothers and twenty children. One tumor had been extirpated which weighed eighty-one pounds. One mother was in a six months' gestation, and after the surgical operation had no difficulty and was delivered safely of child. In the subsequent discussion Dr. Dunlap told of three cases which came under his personal experience, in one of which he did not know that the patient was pregnant. He was in favor of having an abortion performed previous to the operation in extreme cases. The life of the mother was to be regarded much more than that of an undeveloped child. He expressed himself as opposed to the smaller incisions of ovariectomy. Dr. Chadwick, of Boston, presented another view of the subject, urging that in many cases the operation was not necessary at all. He had two cases where the tumor was as large as the fetal head, and had simply removed it to one side, thus effecting delivery without interfering with the tumor at all. Three weeks ago he had operated on a tumor which measured six feet and weighed 140 pounds. He was not in favor of operating before the puerperal period, unless in cases of extreme necessity. Dr. Battey spoke of a case where the woman had ninety pounds of tumor and only seventy pounds of flesh. He tapped over six gallons of chocolate liquid from her at one time, and, though she was delivered safely, she died a short time after. He mentioned a few more cases where abortion was produced, in consequence of which the patient died. Dr. Byford explained his method to be the tapping of the patient two or three times before gestation. He characterized abortion as a very malicious practice, tending to the death of both child and mother. He knew of one case where the tumor was not removed until after two happy deliveries of the mother. Dr. Sims stated that he had had

two cases, in one of which he was not aware of the pregnancy of the patient, and yet she entirely recovered.

He said that sometimes the tumor bursts and kills the patient, and sometimes bursts to her cure. He would not interfere with tumors when they were small, but when they grow larger they must be operated on. Dr. W. W. Dawson, of this city, complained that the fashionable incision was a small one, but he thought that the incision should be large enough to remove all adhesions, and all particles of blood and other matter. He referred to Dr. Bradford's treating a woman without using the operation, merely through a sense of delicacy, because she was a physician's wife.

Dr. A. Reeves Jackson, of Chicago, read an exhaustive treatise on "Uterine Massage as a means of treating certain forms of Enlargement." He explained the causes of enlargement and reviewed the different methods of applying massage. Dr. H. F. Campbell, of Georgia, explained that quinine was the best remedy for such enlargement of the uterus, and that it would contract the extension the same as it does the blood-vessels. Dr. T. A. Reamy thought that massage would not contract, but enlarge the parts. During his remarks he said that Dr. Jackson, of Chicago, would not lie, whereupon the latter very good-naturedly replied: "I can lie, but, as my friend Mark Twain says, 'I won't lie.' In Chicago we never do lie." Dr. Sims, in conclusion of the afternoon exercises, congratulated all on the success of the meeting, and urged them to participate more lively in the discussions of the next day. Dr. J. W. Roseburgh, of Canada, was voted in as a member of the Society by acclamation. A sprinkling of female physicians was present in the afternoon, listening attentively to the papers read.

A reporter held an interesting conversation with Dr. J. Marion Sims, in which mention was made of the late fast of forty days of Dr. Tanner. The reporter inquired in regard to the doctor's cable dispatch from Paris to Tanner. In reply Dr. S. said:

"There never was anything in the world that excited such an interest as Tanner's fast. Everywhere I went in England, at the tables of the aristocracy, among all kinds of people, nothing else was talked of. First it was Tanner's fast, and then Tanner's subsequent feast. The subject pervaded all classes. When I was in Paris I sent

him that telegram to encourage him. I was satisfied he was an honest man. But he made mistakes. I would not have let him go to the park every day. I would not have let idle visitors go to see him every day, and so use up his nervous energy. When I went to London, the day after I sent the cable telegram, I found that half the people did not believe in the fast simply because of the way in which it was conducted.

"If he had put himself in the hands of the Neurological Society he would have had as watchers Prof. Austin Flint, Jr., of Bellevue; Prof. John C. Dalton, of the College of Physicians and Surgeons, and Prof. Arnold, of the University Medical College, three men who stand at the head of their departments of physiology. The profession all over the world would have accepted their report as legitimate and conclusive. Both for his own good name and for the benefits that would have accrued to Science Tanner should have accepted the conditions offered him by Dr. Hammond."

Dr. Sims has only within a few days returned from Europe. While there he was the recipient of many honors. He had conferred upon him in Belgium the order of Leopold I., the Cross of the Legion of Honor, two orders of the Italian Government—one of which was the highest that could be bestowed—and an order from Spain and Portugal. All of these decorations were given to him for his discoveries and contributions to science. He stated that American gynecologists lead the world; that they are recognized as authorities in London, Paris and Germany.

Second Day's Session.

The second day's session of the meeting of the American Gynecological Society opened with a good attendance. The first day's programme not having been disposed of, because of the time occupied by discussions, the topics not reached at the close of that day were taken up.

The first part of business was the reading of a paper by Dr. R. S. Sutton, of Pittsburg, Pa., entitled "A Case of Cataleptic Convulsions Cured by Trachelorrhaphy." This was followed by one on the "Extirpation of an Encephaloid Kidney," by Dr. W. H. Byford, of Chicago.

Dr. H. F. Campbell, of Augusta, Ga., read an interesting paper on "The Value of Quinine in Gynecic

and Obstetric Practice." As to the supposed abortifacient effects of quinine, the paper commenced by saying that at a period not very remote from the present, though he had not seen much concerning it of late, the medical journals of this country contained frequent papers discussing, and most of them strongly asserting the oxytocic properties of quinine. The tendency and the precept of nearly all these communications were to the establishment of the opinion that the preparations of Cinchona are not only inapplicable but positively dangerous, and subversive in any and all the stages of pregnancy. "Abortions, miscarriages and premature births were strongly charged to its administration. Why this fusillade against quinine has ceased I am at a loss to divine, unless upon one or two somewhat different assumptions; either that 'the sword was sheathed for lack of argument,' or no one challenged the statements, as it was considered that the fact was too thoroughly established to require reassertion or further confirmation. In this opinion in regard to the action of quinine, after an observation of nearly forty years, I conscientiously give an unconditional denial. Of course I am speaking of a judicious and prudent use of the agent.

"We have only to be reminded of the thousands of pregnant women who must daily use the drug to prevent or break the force of paroxysms of fever, and to know the fact that the question of endangering pregnancy never enters the mind of either physician or patient, to be convinced of the fallacy regarding its abortifacient action. The multitudinous experimentation is familiar to all, and is being repeated every day."

The author of the paper was careful to say that miscarriages frequently occur in the malarial regions of the South, which are in no way attributable to quinine, but rather to the want of it. He then proceeded to show how greatly paroxysmal neurosis endangers the prosperity of pregnancy. "Paroxysmal fever of every grade and type may be regarded as a paroxysmal cerebro-spinal neurosis, differing from neuralgia more strikingly than in many other respects, in the essential feature of pyrexia. Regarding, then, each paroxysm of intermittent fever as a temporary erethesmic condition of the cerebro-spinal nerves and centers, attended with aberrations of sensation, and often of motion also, even to the de-

gree of convulsions in infants, it is not so difficult to estimate the liability of such paroxysms to excite abnormal contractions of the muscular apparatus of the pregnant uterus. Nor on the other hand to recognize the inestimable value of any agent which might control or thoroughly prevent the coming on of a condition so hazardous to the conditions of pregnancy. The subject of uterine irritability and threatened abortion having been placed in the above relation, distinctly obvious to all is the point to which we are tending. It is this: instead of withholding quinine in the fear that it may produce abortion or premature labor, it is to be given conscientiously and in efficient doses *to prevent abortion*; for in obviating the paroxysm and its wide-spread perturbations, we bring the woman out of peril and secure her from many possible calamities—the one to be most dreaded being the superinduced abortion. In the classic bluntness of Gooch we may find a precept: ‘Take care of the woman and the womb will take care of itself.’ The author cites one case in which miscarriage resulted from paroxysmal fever and refusal to take the quinine prescribed, and two cases in which abortion, resulting from paroxysmal uterine neurosis, was prevented by the use of quinine in doses aggregating fifteen to eighteen grains per day.”

PRESIDENT SIMS' ADDRESS.

The President, Dr. J. Marion Sims, of New York, then delivered the fifth annual address to the Society. Following is a brief abstract of that portion recommending changes in the Constitution. After speaking of the origin of the Society and its organization in the city of New York on the 3rd of June, 1876, the President goes on to say:

“We organized with forty members, limited the number to sixty, and then made subsequent membership difficult to obtain. I would advise for the present to extend the membership to one hundred, and to open the doors freely to all men whom we know from the work they have done and the reputation they have achieved, to be worthy of membership, and to all earnest working, educated young men, whose testimonials will establish their character as such. If we do this the time will probably soon arrive when membership should be limited.

“The Obstetrical Society of London opened its doors

widely and takes in the best men of every part of the kingdom. Indeed, many men in our own country, in Canada and on the continent of Europe, are active members of this learned body. They pay their annual dues, and in return receive the volume of transactions."

He recommended that some provision be made for transferring, under certain circumstances, active Fellows to honorary Fellowship.

After alluding to the fact that during the five years of the existence of the Society, its membership had increased by only nine admissions, he asked why the leading gynecologists all over the country are not clamoring for admittance. He thought the requirement of submitting an essay to be passed upon by a star-chamber council one cause, and the timidity of young men another. He thought the remedy was to take back the power delegated to the council, "and exercise the right of determining for ourselves the fitness of candidates for membership."

He recommended the alteration of the constitution so as to give the power of electing Fellows to the Society independently of the recommendation of the Council.

He thought the clause requiring from candidates the submission to the Council of a paper on some subject connected with gynecological science unworthy such a learned body, and should be expunged. "If we were a society of young sophomores, expecting to recruit our ranks from unknown men, we might ask them to give us a specimen of their ability in penmanship, composition and rhetoric, but such requirements from men who have made reputations is not only absurd, but an insult to professional manhood not to be tolerated."

He spoke of Kimball and Dunlap as "the teachers of us all, when but few of those who organized this Society were known beyond their immediate neighborhood, and many of them were in grammar schools. To their labors, in connection with those of the Atlers and Peaslee and Bradford, are we indebted for the successful establishment of ovariectomy as a legitimate operation in this country, and yet ignoring their labors in this direction, we organized a National Gynecological Society, leaving them out in the cold, when we would have honored ourselves if we had appointed a committee to wait on them and beg their acceptance of honorary fellowship with us."

He then recommended some further, but less important amendments to the constitution, and some amendments to the by-laws of the Society.

The last paper of the day was that on "The Instinctive (or natural) and Physiological Position of Women in Labor," by Dr. G. J. Engelman, of St. Louis. The paper dwelt principally on the position of women of barbarous or semi-civilized nations in child labor, and was illustrated by many drawings representing the positions assumed by women in the red, yellow and black races, together with others of civilized races. Among the drawings were representations of the negro method of suspending the woman in labor by her hands to a tree, one of the obstetric chair, and others of more primitive methods suggesting the chair. He had some respect for the advice of the old midwives of the last century, and believed the patients in the later stages of labor should be permitted to follow their own instincts as to position, with moderate restrictions.

The paper was discussed at considerable length by Dr. J. A. Eve, of Augusta, Ga.; Dr. H. F. Campbell, of Augusta, Ga.; Dr. Fordyce Barker, of New York; Dr. Theophilus Parvin, of Indianapolis, and Dr. Reeves Jackson, of Chicago.

The following is a list of members present from a distance:

J. Marion Sims, New York; W. T. Howard, Baltimore; H. P. C. Wilson, Baltimore; T. M. Drysdale, Philadelphia; J. R. Chadwick, Boston; H. F. Campbell, Augusta, Ga.; Theoph. Parvin, Indianapolis; W. H. Byford, Chicago; G. J. Engelman, St. Louis; J. R. Jackson, Chicago; S. C. Busey, Washington, D. C.; R. S. Sutton, Pittsburg, Pa.; J. C. Reeve, Dayton; G. H. Lyman, Boston; Alex. Dunlap, Springfield, O.; Dr. C. B. Miller, Lawrenceburg; Dr. M. H. Harding, Lawrenceburg; Dr. J. M. Kellar, Hot Springs, Ark.

Third Day's Proceedings.

The first paper read was by Dr. Theophilus Parvin, of Indianapolis, on "Secondary Puerperal Hemorrhage." It was an exhaustive treatise, elaborate in its details and extensive in the cases which it cited for various treatment. He explained the extreme danger of the accident, and advised the physician in charge to an unremittent

and acute attention. Dr. H. F. Campbell, in discussing the paper, expatiated on the frightful character of secondary hemorrhages, and said that he gave the most laborious attention to the woman in labor, never leaving his post for more than an hour at a time, because he so much dreaded the occurrence of hemorrhages. His plan was to compress and knead the uterus until a perfect relaxation of the distension had taken place. He had the greatest respect for the binder, and was very careful to remove all the clots of blood from the uterus. It was his custom to place a book on the region below the umbilicus, and raise the patient in the bed three or four inches by means of any suitable contrivance, in order to effect a more rapid circulation of the blood. In his practice he used injections of tincture of iodine, whenever the secondary hemorrhage appeared, and found that it left no clot, produced no pain, and left the uterus normally contracted. He was opposed to the use of chlorate of iron and would prefer the insertion of a "brickbat." He concluded by stating emphatically that he would rather kill the woman than allow her to bleed to death by *post-partum* hemorrhage.

Dr. H. P. C. Wilson, of Baltimore, described three cases of secondary hemorrhage which came under his treatment. He explained the cause of the accident to be the leaving of some foreign substance in the uterus, which festers and causes the dilatation. He had never been bold enough to inject iodine or iron, and generally had found the os sufficiently dilated to introduce the hand for removing all dangerous substances. He referred to a case which a few years ago had been published in the *Medical Journal*, where he found the woman to have five or six successive contractions and alternate expansions of the uterus, and in the desperation of the case, seeing the patient dying in his hands, he introduced his hand and scraped with force the lacerated tissues, thus stopping the hemorrhages and saving her life. Dr. Sutton enumerated five cases which he had in fourteen years, where the hemorrhage had each time occurred six hours after labor. In each case the uterus had been speedily cleansed, and in the first a four or five feet drop of ice water on the abdomen of the patient had stopped the flow entirely. In the second case the flow was stopped with a lump of ice. In the third, a solution of vinegar

was used with success. In the fourth, the uterus had been compressed, and whisky frequently administered, which resulted in a perfect cure. In a second confinement of the same patient, Dr. Wilson's method of scraping had been used with success. He had no experience in the use of iodine, though he believed that iron produced an ugly clot, and that ergot was often ineffective. Dr. F. Barker, of New York, called attention to the fact that malarial poison was not an infrequent cause of secondary hemorrhage, and that lately it had proved such in the city of his practice. Dr. Parvin, the author of the paper, in winding up the discussion, thanked his fellows for their appreciation of his treatise, and acknowledged that in his hurry he had forgotten about the malarial cause of hemorrhages.

Dr. W. T. Howard, of Baltimore, followed with a paper on "Three Fatal Cases of Rupture of the Uterus, with Laparotomy." The first took place on the 6th of October, 1878, with a woman in her thirty-ninth year, who had previously given birth to seven children. She felt a violent giving away and all pain ceased, but the head of the child disappeared in the abdominal cavity, necessitating in a few days the operation of laparotomy. He used quinine for allaying the fever and opium to relieve the pain, but the patient died on the third day. The next case was that of a woman who had been confined three times, and had been delivered once with the use of the forceps, and at other times with great difficulty. The same abdominal section was performed on her at the fourth confinement, and she died some days after from exhaustion, preceded by an excessive diarrhea. Among fifty operations of laparotomy there had been only twenty successful cases according to the new method, which, however, was an improvement on the old, where one only was saved out of twenty-one. He reprimanded those physicians who are prone to talk of their successes, instead of giving their experience of failures, the investigation of which would be far more valuable to science. Dr. Howard is a man of sandy complexion, of medium height, and possesses very marked features. His face is pointed and somewhat angular, and his eyes are deep seated in their sockets, but his physiognomy in all denotes a man of deep research and constant study. He was not ashamed to state that he had been unsuccessful in his three cases of

laparotomy, and suggested a new mode of operation in extreme cases, which consists in removing the lacerated uterus, thus preventing any suppuration to pass into the abdominal cavity. In discussing the paper Dr. Wilson indorsed the author's views, and gave it as his opinion that the greatest danger lay in allowing the slightest bit of matter or clot of blood to remain in the uterus. Dr. Theophilus Parvin thought it an operation of extreme danger, and advised the invention of means to lessen the danger. Dr. Campbell, of Georgia, complimented the author highly on his production, and insisted on the operation being called specifically, "Howard's Operation."

At three o'clock in the afternoon the consideration of the subjects announced on the programme was resumed. The first paper read was by the Secretary of the Society, Dr. James R. Chadwick, of Boston, on "The Hot Rectal Douche." Dr. Chadwick recommended the hot douche through the rectum for inflammatory conditions of the rectum and large intestine—acute or chronic—characterized by diarrhea, pain, backache, etc., and secondly, the conditions that follow inflammations of the pelvic organs, and of the pelvic peritoneum, or cellular tissue, characterized by painful defecation, backache, pain, or burning sensations in the abdomen, etc. He argued that the large intestines, which could be injected with hot water, were so disposed around and so contiguous to the pelvic organs that through them a greater surface of the inflamed portion could be reached with the warmth than by Dr. Reamy's method of vaginal injection, which, besides, was cumbersome and required too much apparatus. The injected intestines would act like a warm poultice, he said. In the discussion which followed, Dr. Howard, of Baltimore; Dr. Campbell, of Augusta, Ga., and Dr. Reamy, of Cincinnati, participated. Dr. Campbell indorsed the recommendations with great warmth, and had a little tilt with Dr. Reamy, who insisted that it was impossible to force water past the ileocecal valve sufficiently quick, or in sufficient quantities to retain its temperature, and effect the desired purpose. Dr. Sims quietly remarked that the speaker was mistaken, but Dr. Reamy insisted on the correctness of his proposition, and brought Dr. Campbell to his feet with a story of a house-breaker, captured on one of his criminal expeditions, who hid the evidence contained in a small box of fine saws and other tools in such a manner that soon after he was taken ill

with a disease of the bowels and soon died. An autopsy revealed the box of tools, which had passed the rectum, the sigmoid flexure, and the descending colon, and had lodged in a corner of the transverse colon and killed him. "Now," said the doctor, "you can't take a tool-chest up drop by drop!"

Dr. Reamy's paper on the "Ulceration of the Cervix Uteri" was next in order, but as the hour was growing late he gave way in favor of a paper that had been sent to the Secretary by the honorable member, Dr. J. A. Eve, of Augusta, Ga., on "Occlusion of the Gravid Uterus." After it had been read Dr. Sims called on Dr. Reamy for his paper, and he responded by giving the points of his paper, which he said was forty pages long—too long to read. This concluded the papers, and Dr. Sims brought the session to a close. He apologized for the slim representation of the New York members of the Society, spoke enthusiastically of the brilliant success of the meeting, socially and scientifically, and said its proceedings were as valuable as those of any of the past meetings. That he had come from Europe to attend it, and would always be willing to sacrifice Europe for the benefits he derived. He thanked the Fellows for the courtesies shown him, and after a glowing tribute to Dr. Byford, of Chicago, introduced him as the President-elect of the Society. Dr. Byford accepted the post, which he considered one of high honor, with a gratitude which he said he could not express. He recognized in it not so much an honor intended for himself as a compliment to the profession of the West. He congratulated the West on the successful meeting, and, after a vote on Dr. Chadwick's motion, declared the meeting adjourned to meet in New York City on the third Wednesday of September, 1881.

At the business meeting, held with closed doors in the afternoon, resolutions of thanks for courtesies received were extended to the medical profession of Cincinnati, and to the Cincinnati Fellows of the Society.

The following are the officers of next year:

President—Dr. W. H. Byford, of Chicago.

Vice-Presidents—First, Dr. T. A. Reamy, of Cincinnati; Second, Dr. H. F. Campbell, of Augusta, Ga.

Secretary—Dr. James R. Chadwick, of Boston.

Treasurer—Dr. Paul F. Munde, of New York.

Council—Drs. A. H. Smith, of Philadelphia.

MICROSCOPY.

Immersion Lenses.

[From English Mechanic and World of Science.]

I NOTED in a letter that in Messrs. Powell and Lealand's newest formula $\frac{1}{4}$ water-immersion objective the front lens is somewhat greater than a hemisphere, and in order to utilize the spherical refracting surface beyond the "equator" the lens is fixed on a thin plate of glass, which is itself embedded in the metal mount that fits on the front of the objective. This plan of mounting front lenses on a thin plate of glass so that the setting need not encroach on the active spherical surface, seems to have been known to and practised by the late Andrew Ross in connection with dry lenses. Some ten years ago Tolles, of Boston, experimented with this plan of mounting, for water-immersion lenses. But I believe it is not on record that either Ross or Tolles ever attempted to utilize a front lens beyond the hemisphere.

The first notice I have met with, relating to the possible use of a front lens greater than a hemisphere, is in a paper "On the Question of a Theoretical Limit to the Apertures of Microscopic Objectives," by Professor G. G. Stokes, of Cambridge, published in the *Journal* of the Royal Microscopical Society, Vol. I., p. 139 (read at the R. M. S. on June 5, 1878). Professor Stokes there discussed the question from a theoretical point of view, and gave a demonstration, based on the assumption that such a front lens could be utilized, proving the possibility of apertures approximating to 180° , measured in the body of the lens.

In June, 1879, Professor Abbe brought over to England one of these high-angled $\frac{1}{8}$ objectives. He explained at the R. M. S. that he had found it necessary to prepare a special immersion fluid (an aqueous solution of chloride of zinc) for use with the new lens, because he had not found it possible to obtain a satisfactory correction of the aberrations with any of the refractive fluids previously in use. Even with the zinc solution he found it important to improve the corrections by a novel chromatic refracting device of his own contrivance, to be placed immediately below the eye-piece. While this immersion

medium remained in the desired condition, the definition obtained with the lens was remarkably good; but, unfortunately, the solution quickly became turbid and useless, so that Prof. Abbe did not venture to exhibit the lens at work in public. He stated that the difficulties of construction would probably preclude Mr. Zeiss from making such lenses for sale. I had the good fortune to see the lens tested under the most favorable conditions, and can affirm that it produced excellent results.

In applying this kind of front lens to the water immersion system, Messrs. Powell and Lealand have distinctly had in view to extend the aperture to the maximum *with water as the immersion medium*. The new $\frac{1}{4}$ has an aperture so near the limit (123° out of a possible 126°) that it may be taken to exhaust the problem of aperture—so far as it can be exhausted with the condition that the aberrations must be corrected *with water as the inter-medium*, and with that *initial power* of magnification. It is to be hoped that a similar aperture will be obtained with a much higher initial power of magnification—say, 1-8th, 1-12th, 1-16th, and 1-25th, which will practically close the water-immersion question until new refracting media are experimented with.

There can be no doubt that the development of the homogeneous immersion system is the problem of the future as regards attaining the limit of visibility with the microscope. In view of the success that has attained the construction of the new $\frac{1}{4}$ water-immersion, with a front lens greater than a hemisphere, Messrs. Powell and Lealand have not hesitated to engage themselves to construct a 1-12th on a similar formula, but for homogenous immersion. The first trial objective, temporarily built up, has yielded 132° , measured in crown glass, and a working distance of .006. It is expected that both these figures will be improved upon.

In a letter Mr. John Phin is good enough to inform us that not only have the Americans arrived at 80,000 diameters, but a "New Yorker" has obtained "over 100,000 diameters, with sufficient clearness of definition to show *P. Angulatum* in dots." I do not presume to doubt the statement; but I would remark that, in Europe, lenses have been produced that more than rival any American lenses in the possession of the Army Medical Museum, as evidenced by the series of photographs of *Amphipleura*

pellucida in balsam, presented a few months ago to the R. M. S. by Dr. J. J. Woodward, and reported on by him. Now, with all the famous battery of lenses at his command (which includes specimens of the work of all the known opticians in America and Europe), Dr. Woodward has limited his micro-photography to about four thousand diameters. I think the inference may be justly made that Dr. Woodward—the American expert in microscopy *par excellence*—is satisfied that about four thousand diameters is the limit beyond which *less satisfactory work* is produced. With our present optical appliances, I regard any reference to 80,000 or 100,000 diameters as of no practical moment.

Finishing Slides.

HAVING used damar dissolved in benzole as a mounting medium for some time past, I find that, when thoroughly dry, the gum becomes brittle, and a slight jar is apt to start the covering glass, and rapid destruction of the slide follows. I have found it necessary, therefore, to run a ring of some tough material around the covering-glass to protect it, my efforts being directed to discovering a material that would give the necessary strength, that can be easily handled, so as to make a neat finish. I have found that the best results can be obtained by the use of a thick, copal, furniture-varnish, what is known as rubbing-varnish. As I have not seen the use of it mentioned in print, it may be new to some readers, and I therefore give the results of my experience.

I use the thickest, finest varnish I can procure, and put enough dragon's blood in the bottle to give it color, without destroying its transparency. It should be so thick that a small drop will not flow from the camel's-hair brush. The older it is the better.

The slide having been cleaned of superfluous gum or balsam, should have a little shellac varnish run around in the angle formed by the covering-glass and the slide, to prevent the colored varnish from running under the cover in the subsequent operations. When this is dry, which will be in a few minutes, the slide is mounted on the turn-table, and a sufficiency of the varnish "dobbed" around the edge of the covering-glass, extending over

the slide. The turn-table is then put in rapid revolution, and with the point of a knife applied to the glass, first outside on the slide and afterward inside on the covering-glass, a ring is spun, which may be made as narrow as is desired, and with its rounded top extending above the covering-glass. I find it very easy to turn a perfectly symmetrical ring.

The slides are laid aside in a dry place for at least a week to harden, when the superfluous varnish can be cleaned off from the glass, with a bit of soft linen rag, and rotten-stone and water, rubbing the whole mount gently, with circular strokes. This removes the superfluous varnish from the glass to the edge of the ring, leaving it with a clean circular edge, and at the same time rubs down any inequalities which may exist in the ring itself. After this, wash the slide well in fresh water, with a soft brush, to remove all traces of the rotten-stone, and gently dry it with a soft cambric handkerchief. When it is dry, a few circular strokes with dry cambric on the end of the finger, will give the ring a semi-polish, which leaves it with a very neat finish.

I usually clean the whole slide with the rotten-stone and water, so that when it is dried, and gently wiped, it is ready to receive the label. The whole process is quite expeditious, and the results are so satisfactory, in the permanence and finish of the slides, that I am confident, if any one gives it a fair trial, it will supersede all other cements for a like purpose.

BOOK NOTICES.

A TREATISE ON COMMON FORMS OF FUNCTIONAL NERVOUS DISEASES. By L. Putzel, M. D., Physician to the Clinic for Nervous Diseases, Bellevue Hospital Outdoor Department, etc. 8vo. Pp. 256. New York: Wm. Wood & Co.

This is the eighth volume of "Wood's Library of Standard Medical Authors" for 1880. These works are sold by subscription only—twelve volumes each year for \$15.

This volume on functional nervous disorders will be found interesting and instructive, containing, as it does, a large amount of information in regard to a very im-

portant class of diseases—a class of diseases which physicians are more apt to be least informed about, but which are exceedingly common.

The first part of the work is devoted to the consideration of Chorea, Epilepsy, Neuralgia. The second part treats of Peripheral Paralysis—under which head all the various paralyses are considered. It will be observed that, in a work of 256 very closely printed pages, the nervous affections which the author treats are treated of at very considerable length. For instance, in discussing chorea, there is a chapter devoted to its clinical history, a chapter to its etiology, one to its pathological anatomy, another to its pathology, and another to its diagnosis and prognosis. The same way is epilepsy treated.

Nearly half the work is devoted to the consideration of peripheral paralysis; and this portion alone, in consequence of the large amount of valuable information contained in it, is worth many times the price of the work.

The remarks of the author in the case of a divided nerve is of interest and we will therefore quote: "Within a few days after the receipt of the injury the peripheral portion of the *nerve* begins to lose its excitability to both the faradic and galvanic currents, and this keeps on steadily increasing. . . . Entire abolition usually occurs within a period of about two weeks. When recovery occurs the irritability of the nerve to both currents slowly reappears and increases until it has resumed its normal proportions. It is a curious fact that even after the paralysis is on the high road to recovery the nerve will not respond to electrical stimulus, although it readily allows the transmission of the impulse of the will; *i. e.*, the patient can move the muscles voluntarily, although they will not contract upon passing an electrical current through the nerve."

ATLAS OF SKIN DISEASES. By Louis A. Duhring, M. D., Professor of Skin Diseases in the Hospital of the University of Pennsylvania, etc. Part VII. Eczema (Pustulosum), Impetigo Contagiosa, Syphiloderma (Papulosum), Lupus Vulgaris. Large quarto. Philadelphia: J. B. Lippincott & Co. Cincinnati: R. Clarke & Co.

We have noticed previous numbers of this Atlas of

Dr. Duhring as they have been issued. We will say of this, what we have said of other numbers, that the colored plates are most accurate, exhibiting the various skin affections just as they are seen in the living subject. The complete work will certainly be of great value, for, with it, the physician and student can study skin diseases as if he had cases of each affection before him. It is all that can be wished for in the way of plates—far more than could be reasonably expected. No portrayals of dermatology heretofore have been as accurate as these. The price, per part, is \$2.50.

THE MICROSCOPIST: A Manual of Microscopy, and Compendium of the Microscopic Sciences; Micro-Mineralogy, Micro-Chemistry, Biology, Histology, and Practical Medicine. Fourth edition. Greatly enlarged. With 252 illustrations. By J. H. Wyethe, A. M., M. D., Prof. of Microscopy, etc., in the Medical College of the Pacific. 8vo. Pp. 434. Philadelphia: Lindsay & Blakiston. Cincinnati: R. Clarke & Co. Price, \$5.00.

From this work having reached a fourth edition in the short time since it was first published, it would seem to have attained to very considerable popularity in the profession. This is undoubtedly owing to its having been prepared to meet the wants of the physician to a greater degree than the generality of other works. Very considerable space and careful directions are given for the use of the microscope in micro-chemistry, biology, histology, pathology, etc. There are many colored plates of objects in different departments of microscopic research; and those representing urinary deposits are particularly good.

As usual with works on the microscope, considerable space is devoted to the description of accessory apparatus, which we think it would have been better to have omitted and filled the pages with other matter, or have reduced the volume that much in size. These subjects are best relegated to works devoted exclusively to descriptions of the microscope, and they should not encumber works in which the primary object is to teach what the microscope unfolds. Since our author, however, does enter to some extent into the field of microscopy, and gives some attention to instruments, we will mention that

he seems to be better acquainted with instruments of French manufacture than with American or English make, although the American and English are much superior to any of the Continent.

In conclusion, we will say that, as a practical work for physicians, Prof. Wyethe's work is superior to any with which we are acquainted, and to all such we very cordially recommend it.

CORRESPONDENCE.

WHAT A STUDENT THINKS OF THE LECTURES.

TO THE EDITOR:

On arriving in the city, in common with many other students I was struck with the strong feeling which seemed to exist in professional circles in this city in regard to the hospital and its lectures.

Coming from the interior of the State, with little opportunities for the study of disease, I naturally desired to avail myself to the fullest extent of the advantages of this large institution. My preferences were, therefore, in favor of those engaged in teaching in the hospital, my great object in coming here to attend lectures being to have the advantage of the instruction of gentlemen, who, occupying positions in so large a hospital, ought to be well qualified to impart instruction to the rural mind. For it is well known that, in those centers of medical learning where instruction has attained its highest development, the utmost attention is given to accurate and methodic instruction at the bedside of the sick. It is this practical instruction, this presentation of actual fact, which we expect as students to find in the course of lectures at such an institution. But, above all, a student has a right to expect that the gentlemen engaged in teaching school have a sufficient amount of knowledge to instruct those who resort to the hospital for this purpose. I confess I have been grievously disappointed in the high expectations which I had formed before coming here; and this expresses the general sentiment of the best informed students. Instruction is clinical in name only; a case is brought in from a remote ward, and the lecturer delivers a dry, dull and spiritless harangue in a monotone which

wearies the flesh beyond endurance. He retails trash of the olden time, makes errors on anatomical and physiological points which any intelligent student can correct, and thus, appearing in a ridiculous light, loses all authority as a teacher. It is true there are a few exceptions to this statement, but I think it may be said of the best of them that they give us students little more than the cold victuals or the hash—poorly seasoned at that—of some former reading. Of the patients themselves we see only those brought into the amphitheater, and of their diseases we only hear the occasional references made by the so-called clinical lecturer. No opportunity for rendering ourselves practically familiar with those important aids to the work of a medical practitioner as physical diagnosis, auscultation, percussion and the other means of obtaining practical bedside knowledge, is afforded us. In the hospitals of the Eastern cities, I am told, every opportunity is given by auxiliary courses of obtaining practical knowledge. I see advertised in the medical journals courses of this kind given in all the hospitals of the East. The students, who discuss these things freely, are, of course, very much disappointed at this very unsatisfactory kind of clinical teaching. They do not go to the hospital to get didactic lectures, for they are delivered more systematically and more thoroughly at the various medical colleges. The students think that less fuss had better be made about the expense of the hospital, and more attention paid these practical matters. We are not interested in what it costs the people of Cincinnati to keep up the hospital, but we are interested, as we pay our money therefor, that a course of really clinical lectures shall be delivered. If Cincinnati has not men able to deliver these, I, for one, and I have heard many others say the same thing, will go where we can obtain such advantages. As it is, in the walking cases we merely see the patient, and in the bad cases not even this, but only the bed-clothes which cover him; and we have to take it for granted that symptoms exist which the clinical lecturer affirms to exist. If this is the style of clinical teaching, they might as well tell us that such a patient is down in the ward and not present him at all, and the instruction will be just as *clinical*.

A little old fellow twirling his thumbs pounds with his fist on the aforesaid pile of bed-clothes, and says: "Gentlemen, here we have the dullness of pneumonia." Another,

a heavy, heavy weight, covers the blackboard with sums, and repeats some stale facts about the connection of the weather and disease, which has as little relation with the patient under discussion as the vasomotors to a train of cars. Still another favors us with arguments in favor of tying the navel-string for two long and weary hours. Now, if this old gentleman doesn't know that it is necessary to tie the navel-string, any old woman can inform him. This ancient bumpkin, the older students say, orates upon this subject every year. There is also there a juvenile milk-sop, apparently an escaped clergyman, who talks mildly about some surgical subjects which he is too dainty to handle in a practical way.

Now, it does seem strange that in a city like Cincinnati there can not be found men who are better qualified for medical teaching. If there can not, there should be a stop put to the false statements put forth annually by the medical colleges in this city. I am told that a new set of lecturers will come on about the first of December, but I learn that, with one or two exceptions, they are not any better, and in some respects worse.

The very poor kind of lecturers with which the hospital is furnished indicates either an inability of the city of Cincinnati to furnish a better (which we do not believe, judging from the lecturers in the colleges), or that the directors of the hospital are too ignorant to make a good selection. Any way, there is something wrong, and if they want to encourage students to come to Cincinnati they must make an effort to do better in their hospital.

My own observation in this city has taught me that those who lecture and tend best are best qualified to treat the sick, hence I must conclude that the treatment of the sick in this hospital is not up to the standard. When we hear the prescriber abusing the liver for all manner of ailments, and urging mercury as a panacea in its diseases, we know that he belongs to the antediluvian race of doctors, and when we hear, week after week, the same old speculations, until they become a by-word among the students, serving to nickname their teacher, about the vasomotors, etc., we know that the instruction is not of the sound and judicious character which it ought to be in such a place. If, Mr. Editor, you conclude to publish this letter, and several students unite with me in the request that you will be kind enough to do so, I will soon forward

you some personal sketches of those interesting individuals who do the clinical business at the Cincinnati Hospital.

STUDENT.

EDITORIAL.

PARTIES who advertise will consult their interests by advertising in a well-established journal—not one just commenced, nor one that has lived out its day of usefulness and is kept alive by occasionally buying up the subscription list of a defunct contemporary. It is better to pay a reasonable sum for space in a journal of large *bona fide* circulation than a very small sum in a journal of scarcely any circulation.

THE MEDICAL NEWS is the cheapest medical journal to advertise in of any medical journal in the West—not because it charges less per page, but because it has the largest circulation. Those who advertise in it usually continue their advertisements so long as they continue to advertise in any journal. In looking over the advertising form it will be observed that not a few of the advertisements have been appearing for years.

We hereby append the post-office law in regard to periodical publications. By noticing it, and keeping it in mind, hard feelings would sometimes be avoided:

UNITED STATES POSTAL LAW.—1. A postmaster is required to give notice *by letter* (re turning a paper does not answer the law) when a subscriber does not take his paper out of the office, and state the reasons for its not being taken. Any neglect to do so makes the postmaster *responsible* to the publishers for payment.

2. Any person who takes a paper from the post-office, whether directed to his name or another, or whether he has subscribed or not, is responsible for the pay.

3. If a person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it until the payment is made, and collect the whole amount *whether it be taken from the office or not*. There can be no legal discontinuance until the payment is made.

4. If the subscriber orders his paper to be stopped at a certain time, and the publisher continues to send, the subscriber is bound to pay for it *if he takes it out of the post-office*. The law proceeds upon the fact that a man must pay for what he uses.

5. The courts have decided that refusing to take a newspaper and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

PRIZE ESSAY ON THE FUNCTIONS OF THE OPTIC THALAMUS.—Dr. Wm. A. Hammond, of New York, offers a prize of five hundred dollars, to be awarded by a committee of the American Neurological Society, at the meeting in 1882, to the author of the best essay on the subject named. This prize is open to neurologists in all parts of the world. Should no essay be deemed worthy, the offer will continue until 1883.

CHIAN TURPENTINE IN CANCER.—This remedy, first recommended by Dr. Clay, of Birmingham, has been in use for some time past in Great Britain and the Continent in the treatment of cancer, especially of the female generative

organs, and has been attended with very beneficial results. It is prepared for administration as follows: Dissolve one quarter of an ounce of Chian turpentine in half an ounce of sulphuric ether (anæsthetic), then add solution of tragacanth, four ounces; syrup, one ounce; flowers of sulphur, forty grains, and water to sixteen ounces. Dose, two tablespoonfuls three times a day. A lotion containing six grains of arsenious acid to a pint of water may also be used locally at the same time.

SUBSCRIPTIONS TO PROFESSOR CLAUDE BERNARD'S MONUMENT
SOLICITED.

Mr. Editor:—Having been selected by the Paris Committee (Messrs. Ranvier and Dumontpallier), having charge of the subscription for a monument or memorial to the late Prof. Claude Bernard, to represent them in the United States, I beg leave to be allowed to use your columns for the purpose of appealing to the members of the medical profession, and all others interested, to subscribe to this worthy project.

I need hardly remind your readers of the great debt which every practising physician owes to the labors of the illustrious physiologist whose memory we are asked to honor in this way.

All inquiries and subscriptions, in the shape of bank checks or postal money order, should be addressed to me.

Yours, very respectfully,

E. C. SEGUIN, M. D.

NEW YORK, *July 31*, 1880.

TUBERCLES.—The results of Cohnheim's researches are, that the inoculation of other matter may produce septic poisoning, but that of tubercular matter never. Inoculation may be made by introducing a *fresh* specimen into the subcutaneous cellular tissue; by causing the animals to swallow it, or by making them breathe an atmosphere charged with it by diffusing the material through it with an atomizer. When tubercular materials were taken into the stomach, the glandular structures of the intestines and mesentery were found filled with tubercles; when breathed, the bronchial and tracheal glands, the pleura and the lung structures were affected, while the abdominal organs remained free; when inoculated into the an-

terior chamber of the eye, the iris and choroid were first affected and the entire body subsequently; when the subcutaneous tissue receive the virus, the nearest lymphatic glands first, and every structure of the organism subsequently, showed the specific deposits.

CREMATORIES.—We learn that a retired merchant of Pittsburg contemplates erecting a crematory for the incineration of human corpses near that city. There is to be connected with it a beautiful and attractive building, with verandahs, and, without the same, will be built seats for the convenience of those who may attend the cremations. The interior will be fitted up in a manner at once attractive and appropriate, so that there will be nothing repugnant to the sensibilities of any person in the construction of the whole building. The retorts will be so arranged that incineration will result in a little more than an hour. The fronts of these retorts will be of mica, so the process can be observed, if so desired. In fine, the whole building and appointments are to be marvels of convenience and scientific skill. Urns will also be furnished for the collection of the ashes. These urns will have stamped upon them the date of the birth, death, and cremation of the person whose ashes they hold, besides a place for photograph of deceased.

The arrangements will be quite as complete as in the crematories at Leipzig and Gotha. In these cities very suitable buildings and furnaces have been erected. The incineration in the latter has been said to have been accomplished in forty minutes. There is no smoke and no odor, the flames being driven in upon the body through a series of tubes, and the smoke being consumed as fast as formed. Societies have been organized in Germany for the popularizing of this method, the members agreeing that at death the society shall conduct the funeral rites and dispose of the corpse by fire.

SCHOLARSHIP IN MEDICINE.—In Norway, it is stated, in order to matriculate as a student of medicine, the applicant has to pass most rigid examinations in arts, including Norwegian, German, French, English, Latin, Greek, mathematics, geography, history, philosophy, including the higher mathematics, zoology, botany, astronomy, and the elements of chemistry and physics. But in the United

States, with the exceptions of probably a single school, it is not inquired of a candidate for graduation if he can write his own name; and of those who are graduated not one in twenty-five can read his Latin diploma.

While we do not think that a knowledge of so many languages is necessary for a physician as is required in Norway, yet we do think that he ought to have a knowledge of the grammatical construction of his own, and be able to read Latin with tolerable facility. The names of medicines and names of anatomical parts, etc., are expressed in Latin, and, of course, a knowledge of that language, to some extent, will facilitate a student's progress. But independent of advantage in this respect in knowing Latin, its study disciplines the mind and imparts a culture that does not attend upon any other study. Many are under the impression that mathematics is a study calculated to enlarge and strengthen the reasoning faculties; but while they no doubt tend to discipline the mind to some extent, yet it is not observed that mathematicians are logicians. In fact, it is noticed that they excel in reasoning only in regard to lengths and breadths, measurements of squares, cubes and circles. But the classical scholar's research into the writings of the ancient sages, with a knowledge of their language, which has a beauty and science in its construction that is not found in any modern language, largely extends the scope of the mind, strengthens its logical powers, and cultivates and refines. It is the classical scholar who extends the limits of mental and moral philosophy, deduces facts from history, unfolds natural laws and understands the penalties of their violation. While the study of ancient languages may be too much indulged in, in that all college students are required to study them, no difference for what calling in life they may be preparing for, yet we believe that there is no study that better fits one for the study of medicine than they do. We believe that it would greatly conduce to the benefit of the profession if all matriculants were required to have considerable knowledge of the Latin language—enough at least as to enable them to read easy Latin authors.

CHIAN TURPENTINE IN CANCER.—We have published very considerable recently in regard to the treatment of *cancer* by Chian turpentine. It has been employed more in can-

cer affections of the uterus than in cancer involving any other organ; but we do not see why it would not be equally efficacious in the latter instances. If cancer is a constitutional disease, and we believe it is, it would yield as readily to Chian turpentine when located in the breast, or situated upon the lip or tongue, or in the stomach or liver, as when implicating the uterus. In such a case the germs of it are circulating in the blood, and the cure of uterine cancer is brought about by the destruction of these germs by the turpentine as it meets them in the blood-vessels; and the same result, of course, would occur in cancer of whatever organ or part, as the local affection would be but the visible manifestation of the diseased system. Some, however, consider it but a local disease. If this should be the correct hypothesis, the action of Chian turpentine in curing uterine cancer would have to be explained by the theory that the medicine has a special affinity for the uterus in the way of modifying its nutrition or producing, in some way, changes in its structure, molecular may be, so as to be incompatible with such a condition as cancer. If the remedial effects of this agent is limited to cancer of the uterus, it would go far to prove, in our opinion, that cancer is purely a local disease.

In a recent number of the London *Lancet*, Dr. Clay reports four cases of uterine cancer treated by Chian turpentine. We quote the following account:

"One of the patients, twenty-five years old, had scirrhus of the body and cervix uteri. Hemorrhage was profuse and dangerous; pain agonizing and cachexia well marked. The cavity of the uterus was so eaten out that three fingers could easily be passed into it. The other cases were much of the same character; two much more advanced with enormous cancerous tumors. The remedy is exhibited in the form of pill or solution. If given in pill, he advises a combination of turpentine and flowers of sulphur—six grains of the former to four of the latter—to be made into two pills, which are to be taken every four hours. If a solution is desired, one ounce of the turpentine should be dissolved in two ounces of pure sulphuric ether; solution of tragacanth, four ounces; syrup, one ounce; flowers of sulphur, forty grains, and sufficient water to make sixteen ounces. Of this, one ounce should be given three times a day. The dose of the turpentine

may with safety be increased up to twenty-five grains. The remedy must be continued for a long time; but Dr. Clay thinks it best to give the patients a few days of rest every three or four weeks. To thoroughly test its efficacy, he tried it alone without any local treatment. The relief from pain is marvelous. The discharge, while at first increased, gradually becomes thin and less, and finally is suspended. Many agents were combined with the turpentine, and other varieties of turpentine were tried, but in every instance it was found that the Chian turpentine alone exerted less deleterious influence upon the digestive organs, and could be administered for a much longer time alone. It appears to act upon the periphery of the growth with great vigor, causing speedy disappearance of infiltration and arrest of further development of the tumor. Pain and hemorrhage is promptly arrested, glandular involvement is prevented, and the peculiar cancerous cachexia disappears. Cicatrization is rapid, firm and healthy."

It is claimed that the demand for the agent is so great that the market is flooded with a bogus material, and this is held to account for its failure in some reported cases.

FOR SALE.—There has been received at the office of the **MEDICAL NEWS**, some additional medical batteries and microscopes, which will be sold at a bargain. They are new and in first-class order. There is on hand a German microscope, large, in a solid Spanish mahogany case, four objectives, and a number of articles of accessory apparatus. The highest power is an immersion one-sixth, of high angle of aperture, correction for glass cover. The cost in Germany was \$300.00. Will be sold for \$250.00. In perfect order.

We desire to direct the attention of our readers to the advertisement of Messrs. Reed & Carnrick. In it they will see the testimonials of those of high scientific authority as to the value of **MALTINE**. At the same time we will say in regard to Horlick & Co., that their food for infants and invalids is rapidly displacing all others of the kind. We have used it and know it to be as represented.

THE CINCINNATI MEDICAL NEWS.

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Old Series.

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Vol. IX. No. 10.
New Series.

ORIGINAL CONTRIBUTIONS.

Electricity in the Treatment of Diseases of Women.

BY CHAS. A. L. REED, M. D., HAMILTON, O.

[Read before the Butler County (Ohio) Medical Society, September 2, 1880.]

ELECTRICITY is one of the most potent remedies in the treatment of diseases of women. In many instances it is not only more efficacious, but safer than other measures usually employed by the profession for the management of this class of maladies.

I know no better way of demonstrating the accuracy of these observations, than by passing at once to the recital of some cases in the treatment of which electricity has proven of great value in my hands.

PROLAPSUS UTERI.

Mrs. J. C. F., of Kansas, aged thirty-two, married twelve years, the mother of three children, presented herself to me, September, 1878, giving the following history of her case: Four months ago had had a miscarriage which was brought on by a fall. Previous to that time had always felt well, but ever since then her life had been a chapter of ill-health. Said she: "Doctor, I have such dragging-down pains in the small of my back. It seems to me that I will at times almost break in two. I have the whites just all the time. My bowels are constipated. My appetite is poor, and I have headache almost constantly." I found, on inquiry, that she experienced difficulty in starting the flow of water when she made efforts to urinate. This lot of symptoms, in whole or in part, at

all times indicates that condition which can not be more properly and accurately designated than by the homely phrase "falling of the womb." An examination revealed the womb so completely dropped that its mouth presented at the sphincter vagina. The organ was intensely inflamed and somewhat enlarged.

TREATMENT,

Consisting in the application, alternately, of primary (Galvanic) and secondary (Faradic) currents of electricity, after, of course, first reducing the procidentia, administering an alterative cathartic, and putting the patient to bed. The electrical "seances" were repeated once a day for the first week, each seance lasting from five to fifteen minutes. After the first week, the intervals of the treatment were lengthened, first, to every other day, and subsequently, to twice a week. At the end of the second week, the patient was permitted to go about the house, but as she persisted in running up and down steps, thus bringing on a partial recurrence of the trouble, she was, at the end of three days, again put to bed. The inflammatory feature of her malady had, however, by this time, so far subsided, that the primary (Galvanic) current was dispensed with, treatment being continued with the secondary (Faradic) current alone. At the expiration of another five days, she was permitted to go about her work. The womb, having regained its natural position, was successfully kept there by faridization of the organ, and ligaments, twice a week, for the succeeding four weeks, at the expiration of which time she was discharged. A year and a half later she had had no recurrence of the procidentia.

I desire to make this case a text for a few brief reflections on the relative merits of electricity and supporters in the treatment of this class of affections. The history of the case just related, which is but representative of a number of others that I might present, establishes the fact that electricity, unaided but by rest, is sufficient to cure recent prolapsus. The *rationale* of the treatment is made apparent by merely glancing, first, at the pathology of the condition; and, second, at the therapeutic action of the remedy. 1. The pathology of procidentia, briefly stated, consists essentially in (*a*) relaxation of the upper supports of the uterus, *viz.*: the suspensory ligaments;

(b) relaxation of the lower supports of the uterus, *viz.*: the vaginal walls; (c) local perversion of nutrition; (d) deficient nerve force. 2. The effect of the secondary (Faradic) current is, (a) to contract and "tone up" relaxed tissue. The influence of the primary (Galvanic) current is, (b) to correct disturbed nutrition, and (c) it is restorative and anodyne when applied to debilitated nerves. Thus Dr. Stephenson, of Edinburgh (*Half-Yearly Abstract*, July, 1873), says of the primary current in its direct application to weakened sacral nerves: "Its effect in alleviating pain affords immediate relief; and by its restorative influence, gradually removes the affection. * * * In some cases, * * * great relief of suffering can be given more quickly and with better effect than by use of anodynes."

It can not be said, however, that the mechanical treatment of procidentia, *i. e.*, by the means of supports, so fully meets the requirements of these cases. Indeed, it is susceptible of demonstration that, in many instances, the unique contrivances called pessaries are positively irrational and damaging. A large number of these supports, more particularly the so-called intra-vaginal varieties, retard the improvement of cases by (a) failing to retain the organ *in situ naturale* after it has once been reduced. (b) They fail to restore the lower natural support of the uterus, by still further diminishing the longitudinal axis of the vagina; they being in shape "so diverse and grotesque and anomalous, as to be a surprise and wonder to one who has patiently considered the physical conditions of the normal vagina and uterus."* Those made of metals,

* Dr. E. Cutter, "Versions and Flexions," p. 53.

and indeed of some other substances, often do damage by becoming irritating, thus (c) augmenting the pre-existing inflammatory trouble, as well as (d) aggravating the already paretic condition of the sacral nerves.

From this showing, it is obvious that of the two remedies, in at least those cases where adhesions have not formed, electricity is by far more preferable than pessaries.

ELECTRICITY IN FLEXIONS AND OTHER DISPLACEMENTS.

I have successfully used electricity in the treatment of flexions. It is applicable in recent cases, and in old ones in which adhesions have not formed. I base my treatment of these cases on the obvious principle that a

flexion is simply a relaxation of one wall, with a corresponding contraction of the other wall of the uterus; just as an arm with paralysis of the extensors is bent by the unresisted contraction of the flexors. As the indication in the latter instance is to straighten the arm by restoring the vigor of the extensors, so, in the former, the indication is to straighten the uterus by re-establishing the contraction of the relaxed wall of the organ, and restoring the tone of the relaxed ligaments. This indication is met by applying the secondary (Faradic) current to the convex wall. This may be done in the case of ante flexion by adopting a method of Althaus, which consists in applying, through a speculum, a pea-tipped electrode to the external os, and carrying an olive-pointed director, connected with the other pole, into the rectum up to the fundus. In the case of retro flexion the same principle of treatment may be applied (indifferently, however) by treating the external os as in the previous case, and by applying a moistened sponge-covered electrode over the pelvis. Neither of these plans have, however, entirely suited me, the former being offensive to the patient's sense of delicacy, while the latter but seldom accomplishes its purpose; as the fundus in these cases is generally so far back that the anterior wall lies posterior to the line of the current, and in consequence remains unaffected.

To obviate both of these difficulties, I have devised

A NEW ELECTRODE,

Which consists of a cartridge-shaped disc fastened to a piece of fine rubber tubing, through which passes the connection of small and very flexible wire. The other part of the instrument consists of a heavy unflexible wire, insulated, and fastened to a transverse curved disc three-quarters of an inch long. The latter is introduced through a speculum, and the curved disc placed in the *cul de sac*, either in front or back of the os, respectively as the case may be one of retro flexion, or of ante flexion. The conical-pointed rubber tube, loaded in a fine uterine sound, previously bent to the requisite curvature, is then introduced into the uterus, and the metallic tip carried up to the fundus, and permitted to remain, the sound being withdrawn, and the extra-uterine part of the tube being deposited in the retaining clamps fastened to the heavy vertical wire. A mild and rapidly interrupted Faradic

current is then turned on, and continued for a length of time, varying from a minute to begin with to five minutes, after the first five or six applications a minute having been added successively to each seance. By this means I have succeeded in *reducing* flexions. As a process for this purpose, it must be commended as being far superior to the practice of introducing and burning the curved sound. The electrical method of reduction, just described, consists essentially in straightening the organ by causing contraction of the relaxed wall, a proceeding which, from the flexibility of the the intra-uterine electrode, involves no violence to the lining membrane of the womb. Reduction by the bent sound, however, particularly if often repeated, can not fail to become irritating, and I have seen it excite endometritis where none had previously existed. This instrument is a very desirable one in cases in which the os is open—a condition in which we nearly always find it in the displaced multiparous womb. In some cases of closed os, it is very useful as a supplement to a process of venting.

CASE OF SUBINVOLUTION.

Mrs. C., of Illinois, aged thirty-eight, had had four children. Her last was born February, 1879. Her labor was "dry" and tedious, but in no other particular was it exceptional. Her convalescence was prompt and promising, yet she was not imprudent about getting up too soon. April 27, 1880, she presented herself to me complaining of the following *symptoms*: Pain in the back and groins, which she described as being of the bearing-down sort. Sharp pains at times across the lower part of the abdomen. A profuse and somewhat offensive discharge from the vagina. Great prostration from trifling exertion; considerable disturbance of the general health. Menstruation, at least a bloody discharge, occurring at irregular intervals since the fifth month after confinement. An examination revealed a womb with widely distended os, and measuring scant five inches from the cervix to the fundus. The lining membrane was extensively inflamed and the organ was anteflexed.

TREATMENT

Consisted in first reducing the slight anteflexion by means of the apparatus just described, internal administration

of alterative alkalies, and then in the application of electricity as follows: I used at each seance first the primary (Galvanic) current from twenty-four cells, and then the secondary (Faradic) current for a space of but about three minutes. I used the Galvanic current by applying the positive pole to the back, and the negative within the organ, by means of Beard and Rockwell's intra-uterine electrode, with the following results:

April 31, womb measured $4\frac{1}{2}$ inches, longitudinal diameter. Discharge perceptibly diminished.

May 8, womb $4\frac{1}{2}$ inches, slight discharge.

" 14, " 4 " " "

" 20, " $3\frac{1}{2}$ " only perceptible discharge.

" 25, " a trifle less than three inches; no discharge.

The pain, I omitted to mention, was materially reduced from the date of reduction of the dislocation; it was subsequently entirely relieved, temporarily, by each seance, and it entirely subsided May 20, and did not reappear after that date.

In the application of electricity for the treatment of a sub-involuted uterus, or one that has become hypertrophied from inflammatory action, I act on the principle indicated in this report; *i. e.*, of first effecting by electrolytic action partial solution of the hypertrophied tissue; and, second, promoting its absorption by applying the Faradic current, thereby inducing muscular contraction of the organ, and forcing, as it were, into the blood-vessels the element previously made ready for absorption. I have imagined I have effected this, when, as in the case just related, I (1) applied the primary current from twenty-five cells to the enlarged organ for five minutes; and, (2) immediately afterward applying the secondary current from a less number of cells for three minutes.

AMENORRHOEA, WITH ATROPHY OF THE UTERUS.

Mrs. C. L., twenty-six years old, had been married two and a half years. Eleven months after marriage, she had a miscarriage at four months utero-gestation. Since then, had not menstruated, excepting a slight show at the fourth and fifth month after the accident, but, instead, at the recurrence of each menstrual period, was the victim of nervous phenomena and intense headaches. She stated that she had never before her marriage been free in her

menstrual flow, frequently missing one or more months; and the discharge, when it appeared, was pale and scanty—in short, as she termed it, she “wasn’t like most other women.” Her present condition was that of a somewhat anæmic female, with general health consequently much impaired. An examination revealed a small nodular external os, presenting a bleached appearance. The smallest size uterine sound passed the internal os, but with difficulty, and reached the fundus at a little less than two inches. This anomalous condition of the multiparous womb, impressed me as being analogous to the one Sir Jas. Y. Simpson* attributed to “superinvolution” after delivery—not a questionable theory in this case, in which occurred practical suspension of ovarian function for the remarkable period of nineteen months.

TREATMENT.

She was treated with electricity and chalybeates. The electrical treatment consisted in the application three times a week of the primary (Galvanic) current from six cells, the positive pole being applied to the os, at first externally, and subsequently inserted within the organ by means of a very small pea-tipped electrode. The negative was placed alternately to the lumbar region of the spine and over the pelvis. The ovaries were also treated with this current, the positive pole being applied to them by means of Murray’s ovarian electrode.

The result was most gratifying. At the end of the first month she experienced some uneasiness in the hypogastrium, attended with a slight discharge, the fluid being, however, only leucorrhœal in character. There was an appreciable diminution in her nervous disturbances. The uterus measured slightly over two inches in its longitudinal diameter. The treatment was continued at lengthened intervals until she was discharged at the end of the third month, at which time the organ measured nearly two and a half inches from cervix to fundus, and the catamenia were re-established to a degree normal to herself.

I may be pardoned for pointing out the fact that the treatment of amenorrhœa, with or without diminution, either acquired or congenital, of the size of the uterus, is

* Clinical Lecture on Amenorrhœa, *Medical Times and Gazette*, 1861.

accomplished to a better purpose by the use of the Galvanic current as described than by the instrument devised in 1849 by Simpson and subsequently improved, at different times, by Thomas, Noeggerath, and Murray, and known as "Simpson's Intra-uterine Galvanic Pessary"—a contrivance which, for electrical purposes, can not be recognized as being of much value. Although it is favorably spoken of by Lawson, Tait, Thomas, Hewitt, and Byford, yet, in connection with the treatment of amenorrhœa and atrophied os, it has not been demonstrated that its good effects do not depend upon mechanical irritation. The electricity generated by the elements of which the instrument is composed must be so imperceptible as to exert but little or no influence over the nutrition of the part to which it is applied. From my own observation I have reason to believe that any other intra-uterine pessary not galvanic, but possessed of equal irritating properties, will accomplish all the results claimed for Simpson's contrivance. But I am convinced that an irritating pessary of any kind in the treatment of these cases is not only inferior to the method which I have described in this paper, but their use, if persisted in, is fraught with danger.

Electricity is of use in the treatment of

OTHER MENSTRUAL DISORDERS.

In some forms of painful menstruation galvanism has proved of value, and is recommended by Lawson, Tait and Hamilton. In cases of excessive discharge of blood from the uterus—both menorrhagia and metrorrhagia—uterine contractions may be induced and the flow thereby checked by the proper use of the secondary current.

IN LABOR.

Sir Jas. T. Simpson, as early as 1849, demonstrated the utility of electricity in inducing labor pains. Dr. Alexander Manley, of New York, read a paper before the Neurological Society of that city, June, 1877, reporting several cases in which he had satisfactorily used faradization for the same purpose. In using electricity to stimulate contraction of the parturient womb, the secondary current should be selected, and not applied until the os has dilated or is in a dilatable state. One pole should then be applied over the abdomen at the fundus and the

other to the os over the sacrum, the indication being to induce contractions in the physiological direction—*i. e.*, from the fundus to the cervix. The application should not be made to opposite sides of the abdomen, as transverse contractions might thereby be brought on and an "hour-glass" condition thereby induced. A mild current should be used. I am not, however, favorably impressed with the oxytoic use of electricity. It can not be brought to bear upon the uterus without influencing the fetus, which, it seems to me, is too delicate in its nervous development to safely resist the shock of any current which may stimulate the womb to increased activity. I would not feel at ease in using this remedy unless in the case of an unmistakably dead child. I should then use a mild current, expecting as a result that: "1. The contractions would be more energetic than those produced by ergot. 2. Its action would be immediate. 3. The contractions would be regular and normal. 4. It could be used when swallowing is impaired, and the patient could not take ergot."*

As a remedy for

POST-PARTUM HEMORRHAGE

Faradization is hardly worthy of consideration, for the reason that when it is the most needed it is the least at hand. The hemorrhage following parturition is generally so violent that if you were to leave the patient to get your battery by the time you returned she would in all probability be a fit subject for the undertaker. There are cases, however, those which Bennett has spoken of as "*post partum* weeping" of the womb, which in many instances depend upon a relaxed condition of the organ, in which the secondary current would be of benefit.

Galvanism has been demonstrated to be of some service in the radical treatment of

OVARIAN TUMORS.

In treating these growths by the knife there is involved one of the most formidable and dangerous operations known to surgery. The operation by galvanism, however, removes the perils that are always associated with the use of the blade. The operation for the removal of ovarian tumors by electrolysis consists in inserting a num-

*Hamilton's "Clinical Electro-Therapeutics," p. 124.

ber (three or more) of needles, connected with the negative pole, into the base of the tumor, and applying the positive at a distance, or else inserting it also by means of insulated needles into a distant part of the growth and turning on a current from twenty-five to thirty cells for a half an hour. The seances should be repeated twice a week.

This brief *resume* of the methods of manipulating electricity, and of its effects upon the various cases referred to, can not fail to lead to the conclusion that it is a safe and potent remedy in the treatment of diseases of women. It is not the design, however, to carry out the idea that electricity is an agent either demanded or applicable at all times or in every case of this class. On the contrary, the pretension that its curative powers are universal is simply the shibboleth of the ignorant empiric. Neither is it desired to convey the impression that electricity is a remedy so unimportant in its effects or so simple in its application that its administration can be intrusted to unskilled hands. On the contrary, such a doctrine is most pernicious and emanates only from interested and unscrupulous venders of electrical instruments. Electricity is useful—most useful—in many cases. Its effects are decided as well as beneficent. Its proper use implies on the part of the one who employs it acquaintance with the principles of mechanics sufficient to enable him to understand the complicated apparatus he must of necessity use, a familiarity with the chemical and other effects of electricity in both health and disease, and, finally, he must enjoy a thorough comprehension of disease. Under such circumstances electricity can not escape recognition as one of the most important therapeutic agents in gynecic practice.

Hypodermic Medication.

BY E. A. COBLEIGH, M. D., ATHENS, TENN.

(An Essay read before the *Hivasssee Medical Association*.)

THE society will surely overlook all imperfections of my present thesis, when reminded that I was, at our last meeting, appointed "on paper," by the President, after strenuous opposition from myself to his course; and when

I further state that the past month has been one of unusually heavy demands on my time, giving me almost no leisure for composition, or other extra work. This is my only apology for the fragmentary production now to be read.

It will be remembered that another member of this body presented here, about a year ago, a paper on the same subject chosen by me for to-day's essay. And I only follow Dr. Slack's thesis with a second of similar import, because I know that hypodermic medication is neglected by most of our members, to an extent that is to the disadvantage of both themselves and their patients. I feel confident that if this class of my professional colleagues could be induced to personally try this method of therapeutics, they would find the little syringe a valuable, if not an indispensable, addition to their medical armamentarium. And, while not claiming to be an authority on hypodermic medication, I hope that my present remarks, based on the experience of several years practical use of hypodermics, may at least lead to discussion here, and future consultation of more experienced and worthy writers on the subject, to the end that all may learn, and, I hope, practice, the subcutaneous method of administering remedies.

First, then, are there any special advantages to accrue either to physician or patient from hypodermicism? Personally, I am convinced there are—so thoroughly convinced, that of late years I resort thereto almost daily—and I only wish the whole profession would give a fair trial to it, believing that that alone is needful to fully satisfy and convert the most careless and skeptical among us. Now, while the advantages derivable from subcutaneous injection are not numerous, they are important, sometimes vitally so. The most conspicuous are as follows:

1. More rapid action of most remedies so used.
2. Nearly absolute ratio of effects obtained to size of dose introduced.
3. Avoidance of uncertainties of absorption.
4. Certainty of the prescribed remedy being taken in dose desired, or at time ordered.
5. Avoidance of liability to ejection by an irritable stomach.

6. Non-disturbance of the digestive organs when their organic diseases demand perfect rest for them.

7. Ability to administer remedies when mania, hysteria, trismus, coma, or other states, render deglutition difficult or impossible.

To these I might add another of minor and less general import, that some patients will readily undergo the slight pain of the needle rather than take some nauseous-tasting medicines by the mouth. Lastly, some writers would claim a financial saving in the use of costly drugs, such as atropia, by ensmalling of the dose necessary for its effect; but this is, as a rule, contrary to my own experience.

Now let us go a little more into the details of the foregoing specifications; and in this essay I shall base my statements on the use of morphia hypodermically, because it is both typical of all the rest, and more general in its application than any of the other drugs thus used. First, then, as to rapidity of action. Emergencies, acute suffering, etc., frequently demand prompt and permanent relief, to insure against bad, if not fatal results. Subcutaneous medication, in most cases, is by far the speediest method of systematic saturation with medicinal agents at our command. Morphine generally does not, even in full doses, act to any marked degree in less than from half an hour at the best, to one, two, and occasionally even three hours. I have seen its effect very apparent, in a few cases, in ten minutes after injection under the skin; more frequently twenty minutes is required for a fair degree of action; and moderate hypnotism, or narcosis, can easily be obtained in forty-five to sixty minutes at the latest. In cases of shock, venomous wounds, poisoning, syncope, drowning, etc., a moment sometimes turns the scale of life or death. Here *nothing* takes the place of hypodermicisim, in using stimulants, antidotes, and other remedies indicated by the condition of the patient. But one other method of therapeusis can compare with it in rapidity, and that is applicable in only a few cases and with a minimum of medicinal agents. I refer to inhalation.

Again, I have mentioned the ratio of effects, variability of absorption, gastric rejection, etc., as important factors of weighing the merits of medication *per orem*, and otherwise. These may be here treated of collectively. Scarcely a case of disease falls under the doctor's care, in which

the functions of digestion, and absorption in the digestive tract, are not more or less disturbed. Nausea and emesis are exceedingly frequent occurrences, troubling us to no small degree in securing the retention of our drugs. Pouring medicines into such a stomach, is a good deal like thrashing a balky horse. It is an attempted substitution of brute force for mild persuasion, muscle *vs.* mind, and often fails both in the case of the stomach and the horse. The exceptional successes do not predicate a good foundation rule for future conduct. Of course I am dealing now with generalizations, not having time or inclination for details of argument; otherwise I would enter more minutely into the discussion of the relative merits of subcutaneous and rectal medication as applicable to this class of cases. But so incomparably superior is the former to the latter (except in rare instances), that I deem it only necessary to call attention to the fact, often doubtless noticed by all of us, that the rectum, from local disease, sympathetic irritability, or repeated irritation from frequent introduction of enema pipes, becomes unreliable, or wholly inadequate to our purposes in this direction, retaining but partially the injections thrown in, or rejecting them *in toto* and at once.

But, aside from simple nausea or vomiting, the gastrointestinal tract is sometimes inflamed, congested, paralyzed, obstructed, or otherwise functionally incapable of subserving the purposes of digestion and appropriation. Here, unless we seek some mechanical effect from remedies given *per orem*, it were better not to burden the chylipoietec system with any increase of labor. Rest, total rest, is of as great, or greater importance, than almost any therapeutical measure. Yet other indications not infrequently coexist, demanding our solicitation and action. A few grains, of some easily absorbed and promptly acting remedy, carefully deposited in the subcutaneous tissues, meets the case with not a shadow of extra labor or irritation to the diseased region, and often with the happiest effect.

But even when no organic mischief warns us not to put medicine into the disturbed stomach, other minor considerations lead the practitioner to avoid it if possible. Torpor of gastric action, languid absorption, absent or vitiated peptic compounds, changes in the mucous elements, gastric repletion with food, excess of gases, and a score of

other troublesome retardations to the proper solution and absorption of certain drugs in the stomach or intestine, may face the physician, and render desirable any other channel for introduction of his remedies into the general circulation. Then we find in the hypodermic needle an ally not to be despised or contemptuously dispensed with. For all these conditions, if they do not prevent *per orem* medication, do at least retard and otherwise interfere therewith, rendering it uncertain of rapidity, of degree, and wholly unsatisfactory. But put your drug in the arm, if it be susceptible of such use—and nearly the whole *materia medica* has been so used—you get for one-eighth of a grain the effect of one-eighth, from one-fourth the certain and full effect of that dose, from one grain the action of just such quantity; no more, no less. If you know your drug and your patient, making, of course, every calculation for severity of morbid action, temperament, etc., you can estimate to a nicety just what the result will be, and how soon you will get it. You don't give ten grains and get the effect of two, the other eight passing off unabsorbed, or altered to inertness by chemical action in the stomach and bowels; but, unless capillary action is in utter stasis, the full effect *must* come, *does* come, *will* come every time.

The certainty that your desired dose has been taken, and will have its due action, is a minor affair in this case, for the physician may administer his own prescription by mouth also, before leaving the house, and thus be as certain that it is given as by the syringe; but we all know that our remedies, when left for use by the patient or nurse, often *are* slighted or thrown away; so this is a matter of some moment, after all, especially when it is conjoined with positiveness of non-ejection after our departure, as it is when left under the cutaneous surface. But the other point—the last of my preceding enumeration remaining to be canvassed—ability to medicate patients in coma, syncope, hysteria, trismus, mania, paralysis, convulsions, laryngeal diseases, etc., when swallowing is impossible, or voluntary resistance to our efforts for relief is encountered, sets forth as a clinching fact in my argument. And so axiomatic is the character of this last claim, that I regard any further consideration of it as unnecessary and the premises not likely to be disputed.

Thus far we have gazed at but one view of the picture.

All questions have two sides, and no debater can fairly pass over disadvantageous arguments without notice. So, in hypodermicisim, there are inconveniences and dangers which must be frankly presented. The most serious and infrequent is puncture of a vein, and delivery of the whole potential broadside to the heart, lungs, or brain in a single moment. This would be a serious, if not a fatal catastrophe, should it happen with some drugs. But I have knowledge of such cases only through my journals, and certainly they must be quite rare. No intelligent physician, unless he purposely sought such rapid action of his remedy, would select a point of injection where such accident could occur. So, from the ease of preventability, this objection amounts to nothing—certainly not to any greater weight than the occasional fatality of ordinary doses of potent drugs, *per orem*, in patients of peculiar susceptibility, whose idiosyncrasy can not be foreknown. Yet these do not deter us from using opium, chloral, strychnia, arsenic, chloroform, digitalis, and kindred medicines in our every-day practice. Second, and most common, is the danger of abscess. In most cases, with proper caution, these are easily avoidable. I have made several pretty sore arms, but never had a case of abscess from the use of drugs ordinarily given in this way, such as morphia, ergot, atrophia, strychnia, etc. The simple soreness sometimes arises from acidity of menstruum used for injection, sometimes from the puncture of a nerve, oftener from the injection of a bubble of air. The first and last causes can be readily prevented; the second rarely occurs. Abscesses usually result from irritating injections, as aq. ammon., quinine, carbolic acid (now extensively used in its purity for skin diseases by the hypodermic method), chloral, ether, chloroform, badly dissolved agents, or from air carelessly thrown in. I have seen abscesses from all these causes, but air generally only produces an intense, but brief, smarting. The danger of too intense action from a remedy thus given is a bugbear, as are also those of punctures of vessels, nerves, tendons, etc. It is obvious that a man ought to have medical common sense to use the hypodermic syringe at all. If he has that, he will never unintentionally run the needle deep enough for harm of that kind; and the risk of poisoning by overdose is no greater—not so great, indeed, when we consider all the changing factors in the stom-

achic laboratory—than is the use of remedies by the common channel of introduction.

Risks are our mutual and necessary heritage, as physicians. Half the doses we give involve more or less of uncertainty and peril. In assuming such responsibility, we are justified by previous experience, or present emergency, one or both. Conscience clears us, the world indorses. Different cases entail varying degrees of justifiable risk. So it is with hypodermic medication. In a thousand cases we inject harmless drugs just under the skin, with almost no risk at all. In the next case, perhaps, we purposely risk all on a deep puncture, or an irritant substance, to save a fast waning life. I have passed my needle its full length into the thigh, perpendicular to the surface, and thrown in twenty *m.* of chloroform in a case of obstinate and intense sciatica. I would not hesitate to repeat the measure if needful. I have premeditatedly frescoed one patient with abscesses from the free and repeated injection of ammonia in a case of reputed snake bite. The man recovered. It was a serious alternative, but life was worth the abscesses. I would do it in similar cases again. And for hypodermicism I only claim, and believe I can substantiate the proposition, that injections are no more inconvenient, or hazardous, than other methods of treatment of more general use; and the physician who neglects it through fear, or indolence, fails in his duty both to himself and his patrons. The instruments are cheapened to the extent of being within financial reach of all, and have been vastly improved in the last few years.

A word now as to the practical use of the hypodermic syringe, and I am done. For him who seldom uses it, solutions for carrying about are troublesome and useless, as they soon sour. Many fluid extracts can be used without preparation or trouble, among them ergot, aloes, ipecac, and others. Alkaloids, and easily soluble drugs, are best weighed and put up in powders, to be carried thus, ready for immediate use. Morphia I carry in $\frac{1}{8}$, $\frac{1}{4}$ and $\frac{1}{2}$ grain powders, so marked. Atrophia I carry in $\frac{1}{120}$ and $\frac{1}{60}$ grain doses, by weight. I keep my syringe piston well saturated with sweet oil by occasional soaking, thus preventing shrinking thereof, and the necessity of a long soaking in water when wanted. When I wish to inject morphine, I take an empty cup, and one full of clear,

tepid water, suck half or a full syringe out of the latter, drop my powder into the former, and eject contents of syringe forcibly on to it. By thus drawing it into, and forcibly ejecting it from the instrument a few times, the powder is thoroughly dissolved. I now suck it into syringe again, put on the needle or tip, turn it upward, force out all of the air by pushing up the piston until water flows from the needle, and am ready for work. Between my left thumb and finger I catch up a good fold of skin, (preferably in neighborhood of deltoid for general purposes), draw it tightly toward me, holding the needle like a scalpel, and quickly pass it horizontally into said fold, up to its hilt or heel. Now I draw it back a little, and slowly force out the desired amount of its contents. If the details are closely attended to, and the injection slowly made, no disagreeable sensation results except a slight and momentary burning at the side of puncture. By squeezing the skin between the fingers a moment, before puncturing it, sensation is so nearly obliterated that the needle is scarcely felt at all, and most patients after being once initiated into this method of treatment, prefer it, when in pain, to the slower process of introduction by the stomach. In using morphine, except in easily im-pressible subjects, I adopt the same dose as for administration *per orem*, and have no greater effect therefrom. It does not nauseate so readily when thus given, and is a trifle less constipating, but to avoid these effects when it is an especial desideratum, I usually combine atropine with it when injected.

Thanking you for the time allowed in reading my rather lengthy and disjointed essay, I leave the subject with you for discussion or future thought.

SELECTIONS.

Clinic of Austin Flint, M. D.,

Professor of Principles and Practice of Medicine in Bellevue Hospital
Medical College, New York.

INSOLATION.

I WISH to call your attention first, to-day, gentlemen, to this patient. It is a case of insolation, or sunstroke.

The oppressive and unprecedented hot weather at this season has produced quite a number of cases of sunstroke. Only two cases, however, have been received into this hospital. One case terminated fatally a few minutes after admission. This is the other case, which was transferred to the third medical division. This case, I am happy to see, is apparently doing exceedingly well. It is a rather typical case, I think, after looking at the history, of insolation proper, or thermal fever, if you choose to call it so. It is an essential fever, evidently. Let me say that cases of so-called insolation are of a somewhat diversified character, and, practically, it is very important to make a discrimination among the cases. The very typical cases are cases of sudden coma, accompanied with high fever, and, frequently, a very high temperature. This case, as we shall see, had quite a high temperature. These are the two more important criteria of thermal fever, or a true case of insolation; but during the prevalence of heat patients frequently become exhausted, and they lose consciousness suddenly from pure exhaustion, and they are brought into the hospital. In these cases we do not find the high temperature; we do not find the forcible pulse or the strong action of the heart that we do in the cases of thermal fever; and it is very important not to treat these cases in the same way as we would treat cases of a different character. Perhaps the majority of cases come within these two conditions. Then there are cases (but I do not know that these should be separated from the cases of thermal fever) in which we have developed very quickly all the symptoms of acute cerebral meningitis; and these are to be treated as cases of acute cerebral meningitis. And we have other cases where, in addition to a high temperature and a strong pulse, we have the symptoms which denote active cerebral congestion; and these cases, I think, should be discriminated, for I have been led to the conclusion that in these cases prompt venesection is indicated, and we may be able to save life by resorting to it. I think I have seen at least one life saved by a prompt resort to venesection. With reference to the use of that treatment, we should certainly make a discrimination between cases where the symptoms are those of exhaustion and cases where the symptoms are those of cerebral congestion.

Well, now, the history of this case has been taken very

carefully, and will be instructive, I think, as giving you a good picture of a case of thermal fever or insolation, febrile phenomena being prominent. The patient's name is August O., a German, forty-five years of age, a tailor by occupation.

In speaking of cases of insolation which may occur during this hot weather, I meant to have referred to the importance of discriminating between cases of insolation and cases of alcoholic intoxication. A considerable number of the cases brought into the hospital during the time cases of insolation occur are cases of drunkenness; of course we are to make that discrimination.

This patient was picked up in avenue A, in a comatose condition, and when admitted, at 8:50 P. M. yesterday, he was still comatose; the breathing stertorous and labored, the skin dry and hot, the eyelids closed, the pupils contracted; the temperature in the axilla was 106° . I have known it to be 110 in a case which recovered under treatment. The pulse 160, full, incompressible; involuntary evacuation of the bowels; he vomited once. The lungs were examined, but presented nothing abnormal.

This was the group of symptoms when the patient was admitted. The treatment consisted in putting at once the ice-bag upon the head. Then he was put upon what is known as Kibby's cot, which is a cot so constructed as to allow of a very convenient application of cold water, or warm water, as the case may be, to the whole body, and he was bathed with cold water. He had dry cups applied to the chest as a prophylactic measure. We know that one of the conditions incidental to insolation is pulmonary congestion. This was done, then, immediately after his admission into the hospital, and he was admitted at 8 o'clock and 50 minutes last evening. It is important to take note of the time here, so as to judge of the efficacy of the treatment. At 9:30 the temperature in the axilla was reduced to 102° —from 106° to 102° —by treatment with water. He had then a cold water enema. At 10 o'clock, half an hour later, the patient was evidently improved; he opened his eyes; the pupils were more dilated; he starts, gasps and shivers when water is poured upon him. The breathing now is less labored and more natural. This shivering and starting shows an increase of reflex excitability. He now had a hypodermic of two drachms of whisky, with five drops of digitalis. That was at 10 o'clock.

At 10:30, the cold water being still applied, the temperature in the axilla (which is not a good guide—a point to be borne in mind, and this affords an illustration of it) gave only 101° ; in the rectum, however, it gave 103° , making a difference of two degrees. He had twitching of the eyelids and mouth, and his lower jaw was noticed to move. At 1 o'clock A. M. the temperature was 101.5° . The patient is lying perfectly quiet and the breathing is easy. Six ounces of urine were withdrawn from the bladder by the catheter. It was amber in color, clear, acid, specific gravity 1.014, and contained no albumen. The latter fact is of importance, so as to exclude uræmia in these cases. If we accept cases of coma as those of insolation without due attention, there being a variety of causes for coma, it is quite possible to make mistakes. At 3:30 in the morning the temperature was 101.5° , and he had a more reflex excitability. He started, and had contraction when the skin was touched. He answered questions. The arms were flexed, and it required some force to straighten them. He had contraction of the flexor muscles of the arm. At 10 o'clock the temperature was 101.5° ; pulse 108; it had a full character. The arms are still flexed. He answers questions in monosyllables; pupils do not respond readily to light; the breathing is normal, and he shows reflex irritation.

Well, that gives you a very good history of a good typical case of insolation. Here is the patient. You can see that he looks a little dull, but still he has his intellect; his eyes look well; there is a little capillary congestion, as you see; the breathing is good; he puts out his tongue readily when asked; that is one evidence of intelligence.

And now the chief indication of treatment in this case is to let the patient remain perfectly quiet; and judging from his condition at the present time, we may look forward to his improving every hour almost, and very likely to-morrow he will seem quite well, with the exception of a certain amount of debility.

ANEURISM OF THE ARCH OF THE AORTA.

I shall present next, gentlemen, a case of aneurism; aortic aneurism. George R., fifty-seven years of age, a native of the United States, an upholsterer by occupation, was admitted on the 10th of May. His family history is unimportant. He says he had good health up to two

years ago. He has never had, so far as he is aware, any injury from a strain or violent muscular exertion, but *he has had syphilis*, and *syphilis stands in a causative relation to aneurism* in a certain proportion of cases; that is to say, a sufficiently large number of cases of aneurism in which syphilis had existed to warrant the conclusion that there is a pathological connection, and that is to be presumed in this case.

Now, gentlemen, let me say beforehand, I have not read this history; it will be fresh to me as well as to you; but we are to keep this point in view; there are the symptoms which point to eccentric pressure of an aneurismal tumor. We are often led to suspect aneurism by symptoms which lead us to think there is mechanical pressure upon certain parts, and these symptoms constitute in part the evidence upon which we base the diagnosis.

Now, two years ago, he states here, his voice became weak. Well, that is all that is stated here about that, but the mode in which it is expressed, "his voice became weak," renders it probable that it was not an affection of the voice from a laryngeal inflammation, but from some interference with those muscles which are involved in phonation, and we know that pressure upon the recurrent laryngeal nerve occurs in certain cases of aneurism and produces aphonia, or more or less dysphonia, or difficulty.

He had boring pains in the chest and back. These symptoms should always excite our suspicion; a localized pain in the situation of the aorta anteriorly or in the back. Where a patient complains of persistent pain, localized in the same spot, persisting for a considerable length of time, aneurism should always come into our minds.

He had difficulty of respiration, which may proceed from various causes; caused from pressure, perhaps, upon the trachea, or pressure on one of the primary bronchi; or from pressure on the recurrent laryngeal nerve, involving spasm of the glottis, because we may have two affections from pressure on the recurrent laryngeal nerve; namely, spasm or paralysis.

These symptoms subsided under treatment, and he felt tolerably well up to last March. Does this improvement militate strongly against aneurism at that time? Not at all, for we find cases improve sometimes, especially under certain measures of treatment, in a remarkable way. He felt tolerably well up to last March, when he woke up one

morning with great dyspnœa. The voice again became weak, and he was generally debilitated, and he came to the hospital, therefore, on May 10.

Now, on May 10, this patient was much emaciated. He had anorexia, he was weak, and now a symptom here which is an interesting one; namely, both pupils were strongly contracted, as they are now. You have here a pretty good representation of the *pinhole pupil*, as it is sometimes called. Now, it is not uncommon to have this contraction of the pupil on one side, in cases of aneurism. It is one of the symptoms dependent upon pressure upon the sympathetic nerve of the neck. It is not very common to find it on both sides, showing that pressure is exerted upon both nerves. Now this occurs from various causes. I had, not long since, a case of aneurism under my observation, in which that was a pretty marked symptom, and I mention this as showing the effect of perhaps too confined attention to one subject: contraction of the pupil is one of the early symptoms in cases of locomotor ataxia, and this patient was supposed to have locomotor ataxia, or it was supposed on that ground he would be likely to have it, the fact of the existence of an aneurism not then being known.

Now for the physical examination. The evidence of a tumor was found on the left side of the chest; there is dullness over the tumor; the pulsations are heaving in character, extending as low as the fourth intercostal space. The heart sounds are increased over the tumor. A systolic murmur is heard, and a thrill is imparted to the hand over the tumor. There is tenderness of pressure over the sternum. The apex of the heart is in the sixth intercostal space, within the linea mammalis. He has bronchial respiration over the right side, with sibilant and sonorous rales; bronchio-vesicular respiration on the left side, with sibilant rales.

I may state what has not yet been inserted here, that a laryngoscopical examination shows paralysis of the vocal cord on the left side, showing that the recurrent laryngeal nerve on the left side is pressed upon. The aneurism is usually on this side when the recurrent laryngeal nerve is involved. The situation of the recurrent laryngeal nerve on this side renders it more easily affected by a tumor than on the right side. His voice to-day is reduced to a whisper. It differs on different days, as it usually does in

these cases, owing to the difference of pressure. That is a point of some diagnostic import, for in tumors of a different kind there is not enough variation in the size of the tumor from day to day to cause this difference of pressure, but there is an aneurismal tumor owing to different circumstances, as pressure of the circulation, the quantity of blood, the force of the heart's action, and so on.

We have here, gentlemen, in this situation a distinct impulse; it is easily felt, and it is of considerable strength. Perhaps you can see that my hand is pressed upward. The thrill I do not perceive at the present time. You perceive that there is a dullness over the tumor when we percuss. There is a systolic murmur, easily recognizable, but in itself of no diagnostic import. There is not a double murmur. I have spoken of tumors which are not aneurismal, but pressing upon large arteries, giving us sometimes a double murmur, but we by no means get a double murmur in all cases of aneurism; and, moreover, the cases are not very rare in which we get no murmur at all over the aneurism. The absence of a murmur is never to be taken as a point of sufficient importance to exclude aneurism. Now, there is a sign here which, I think, is of more importance than it is the custom to attribute to it, and that is the distinctness with which the heart sounds are transmitted to the ear. In cases of aortic aneurism that is a marked feature, as a rule; the heart sounds are very loud, near the ear. The conduction of the heart sound is such that we have that sound. We do not have it in the affections of the heart, and, therefore, if we exclude consolidation of the lung, that is a point of considerable importance. Both sounds are unusually distinct, so much so that formerly it was supposed the sounds were reproduced within the aortic aneurism; but that is an absurdity, they are conducted there, not reproduced.

Now we look for other signs of aneurism. We do not need any more. We do not need even as many as we have to make the diagnosis, but there are other signs which we are to look over in cases not so clear in a diagnostic point of view as this. Where there is obstruction of the trachea we have feeble respiratory murmur on both sides of the chest. When there is obstruction of one of the primary bronchi, we have feeble respiratory murmur on that side while there may be exaggeration on the opposite side. And it is easy to determine whether the trachea, or one of

the primary bronchi, is pressed upon. When we find these signs, we should at once have our attention directed to aneurism. We should also compare the arteries in the arms, the one with the other. I do not get the evidence that this tumor presses upon the subclavian artery on either side sufficiently to affect the pulse at the wrist.

It is very easy to perceive that this tumor presses upon one of the primary bronchi. I get a well-verified vesicular murmur upon the left side, while on the right side it can scarcely be appreciated. This tumor, then, does press upon the left primary bronchus.

Now, to direct your attention to the heart a moment. The apex is lowered; so stated in the record. Yes, it is a little below the sixth. Is that evidence of enlargement of the heart? No, because a tumor situated as is this will depress the heart somewhat, and carry the apex a little lower without the heart being enlarged. It has been contended that aneurism does not lead to enlargement of the heart, provided the heart be free from valvular lesions. I am not prepared to accept that statement. I can not but think that the opinion generally entertained is generally correct, that aneurisms do lead, by obstruction which they offer to the circulation, to an enlargement of the heart; but they may cause an evidence of enlargement afforded by the situation of the apex beat by simply pressing the whole heart downward. So that, finding, as we do here, the apex beat somewhat lowered, we are not safe in at once concluding that we have enlargement.

Well, now, gentlemen, I have gone over the important points connected with the physical signs and the diagnostic symptoms of thoracic aneurism. Of course, I might amplify the subject considerably. But the important point, so far as the patient is concerned, relates to the treatment. In a certain proportion of cases the effect of the iodide of potassium in this affection is truly marvelous, as is true of many other remedies which have a remarkably desirable effect in some cases; we do not obtain this effect in other cases. That is true of this treatment in this disease. I have seen in my own experience quite a number of cases in which the effect of this remedy was truly marvelous. This patient is taking that remedy. He is taking ten grains three times a day. But, of course, it will be carried up to as large doses as will be tolerated; at the same time sustaining the patient by nourishing food, but avoiding an excess of food.

By no means reducing him, or placing him on a reduced diet. Give him a diet ample for nutrition. I might make some remarks here upon the plan which has been proposed of late years, of absolute rest and a rigid regulation of the diet, the regulation not consisting in a reduced diet, but in an effort to adapt the diet as exactly as possible to the wants of the system. I will simply remark, that in hospital patients it is very difficult to carry that out. I have attempted it in some instances, but not with very satisfactory results.

Clinical Lecture on a Case of Uterine Cancer, with Remarks Upon Treatment.

BY WM. GOODELL, M. D.,

Professor of Clinical Gynaecology in the University of Pennsylvania.

GENTLEMEN:—Mrs. X. presents herself before you, complaining of “whites,” frequent hemorrhages and failing health; and gives the following history: She is about thirty-five years of age, married, and has had two children, the younger being a little over eight months old. She has not had any miscarriages, and has been in good health until after the birth of this infant she speaks of. No especial difficulty was experienced in her delivery, and she had a good getting up. Her child is not with her, but she says that it is well nourished, and as large as it should be for its age; she is still nursing it. She had not been subject to leucorrhœa, except occasionally after her menstrual periods, until about ten weeks ago, when she noticed a vaginal discharge, which was of a watery character, and so copious that for a time she thought her urine was dribbling away. About two months ago she had quite a profuse uterine hemorrhage, which appeared after sexual intercourse. It has been nearly constant ever since, sometimes, indeed, amounting to a flooding, so that she has lost a large quantity of blood. This partially accounts for her sallow and anæmic appearance, but not wholly. She has noticed, for the last four weeks, that the blood is clotted, and that, mingled with the discharge, are small pieces of flesh. With all this she has not suffered from any pain, yet her general health has failed, and she feels weak; this debility, however, she attributes to the nurs-

ing, for she does not feel as well now as she did when the child was born. She appears emaciated, and her skin is leaden, and lacks the hue of health. She has, indeed, the appearance of one laboring under some cachexia. Pushing our queries further in the direction of her family history, we learn that her father is still living and is unusually vigorous; but that her mother had a malignant tumor removed from her eye, and subsequently perished with secondary tumors in the abdomen. The patient has several sisters, but none are similarly affected.

The history of the patient's disorder, the characteristic local discharges, and the profound systemic disturbance, clearly point to malignant disease of the cervix uteri, which inspection only too fully confirms. She is aware of the nature of her affection, and has traveled for some distance in order to get my advice, and to obtain relief by operation, if I think it needful or expedient. A rest of several days in the hospital will be required previous to any interference, and in the meantime I shall decide upon what course to pursue.

For the purpose of convenience of inspection the patient has been placed in Sims' position, and, as I expose the parts with the duck-bill speculum, you can see the large fungous mass of exuberant vegetations springing from the cervix and filling up the whole upper portion of the vagina. This is the source of the copious watery discharge containing granulations; and from this mass comes the hemorrhage, which she tells us was first excited by sexual congress. I will now dismiss the patient to the ward, while I make a few observations upon her disorder from a clinical point of view.

The only difficulty that could arise in the diagnosis of epithelioma of the cervix uteri would be in its earliest stage. The frequent hemorrhages, alternating with a strong-smelling, colorless vaginal discharge, containing pale vegetations looking like small fragments of macerated flesh, occurring in a woman of about forty years of age, or older, are suspicious symptoms. But the crater-like ulcer having a sharp edge and a dense, rough surface covered with granulations, which are easily broken off and easily bleed, and the form in which a friable fungous growth fills the cervical canal and projects from it into the vagina, equally disclose by digital examination the malignant character of the disease. The speculum even

is liable to break off these exuberant granulations, and, indeed, sometimes causes troublesome hemorrhage. Should the cervix feel like fibro-cartilage, and the os remain firm even after the introduction of a sponge-tent, we then have to deal with another form of cancer, more slow in progress, but not the less malignant; for it is generally held that epithelioma, especially the vegetating variety, is the least malignant of all the forms of uterine cancer, and the most amenable to treatment.

The distinction between the several forms of malignant invasion of the cervix possesses much pathological interest, but is far less important from our standpoint than the location and extent of involvement. Having determined their malignant character in general, the next step is to attempt to determine the extent of the disease, in order to decide the questions of treatment and prognosis.

However early the affection may be recognized, it is never too early to get rid of the diseased structure, always going beyond the limits of invasion in order to insure its entire removal. This may be accomplished by the *ecraseur*, by the galvano-caustic loop, or by careful and thorough scraping with Simon's *curette*, and the scissors, or Reamy's gouge forceps. With these instruments the diseased structure is patiently scraped and cut away until healthy tissue is reached. The operation, however, is not completed until the excavation resulting is thoroughly cauterized with the actual cautery or by fuming nitric acid. This latter application need not be made until a few days later, when the sponge tampon, introduced after the operation, is removed. Since most of you have repeatedly seen me perform this operation, and since I shall soon operate on this woman before you, I shall not go into further details. The subsequent treatment by the mouth is the administration of arsenic, iron and ergot. Abstinence from sexual intercourse should also be strictly enjoined, for it is liable to cause alarming hemorrhages from the impact of the male organ on the ulcerated sore. At the first sign of a return of the disease medical advice should be again obtained. Should the disease prove so extensive as to forbid another operation, much may still be accomplished for the relief of the patient by palliation. The constantly recurring hemorrhages require ice-water injections or suppositories containing astringents, which can be employed by the patient herself. If these prove in-

sufficient, a tampon of cotton-wood, dusted with alum or tannin, or with dilute Monsel's solution, will be required; but it should not remain in position longer than about three hours, otherwise it may adhere to the friable vegetations and pull them away, causing fresh bleeding. The insufferable stench from some of these cases may be measurably made less overpowering by frequent vaginal injections of a dilute solution of potassium permanganate or of chloral hydrate. The latter I generally use, as I believe it possesses local anæsthetic in addition to its detergent and disinfectant qualities. The last resource of medical art, euthanasia by opiates, is all that can be offered to advanced cases, and when the sufferings are very severe it is a boon to be gratefully accepted and welcomed by the sufferer.

Total extirpation of the uterus, by means of laparotomy is a desperate remedy which offers a chance of relief, but is only justifiable where the disease is strictly limited to a movable womb. This procedure has been recommended by Freund, and has been performed some twenty-eight times, with but nine immediate recoveries. Most of the latter cases subsequently perished from a recurrence of the disease. The prospect, you see, is not encouraging, but in such a fatal disease anything offering a ray of hope is eagerly embraced by the patient.

It is worthy of remark that malignant disease of the cervix occurs most frequently in women who have borne children, and, in my experience, in those who have met with a laceration of the cervix. These facts favor the view of its primary local character. But in addition we have the fact that its subjects are generally women in good health, who are ruddy and well nourished, until the cancer ulcerates. Then by absorption of the products of the disease they lose flesh and become leaden in complexion through a systemic infection sometimes termed the cancerous cachexia, but which, in reality, it appears to me, is due more to septicæmia than to any specific impression by the malignant disease; for when the ulcerated surface is removed by an operation, their complexions invariably clear up and they gain flesh.

Two Cases of Rupture of Uterus.

BY S. HUDSON, M. D., MEDINA, OHIO.

DURING the time I have been engaged in the practice of medicine, it has been my lot to meet with two cases of rupture of the uterus. I believe, as a general thing, such cases are almost invariably fatal, as were the two I had the misfortune to witness. I shall not attempt to enter into a discussion as to the cause or pathological condition, but merely endeavor to give a brief description as I found them.

In the fall of 1874, I was summoned, in great haste, to see Mrs. C., aged thirty-six, in her third confinement. The messenger told me to bring my obstetrical instruments, which I did, and hurried to the place with all possible dispatch. On arriving at the house, I found the woman under the attendance of an irregular, who informed me that the lady had been in labor for the last twenty-four hours, and that her pains had been very hard, but had ceased entirely about half an hour previous to my arriving. I found the patient *in articulo mortis*, breathing at long intervals, with deep and heavy inspirations, face pallid, lips of a dark purple hue, pulseless, extremities cold, and her abdomen distended to its utmost capacity. I made a vaginal examination, and found the os dilated to about the size of a nickle. She continued to grow worse and died within ten minutes from the time I first saw her.

I intimated to her friends that I believed the cause of her death to be a rupture of the uterus, and solicited a *post-mortem* examination, which was granted, and was made the next day. There was found an oblique rent, from five to six inches in length, situated on the posterior part of the uterus opposite the promontory of the sacrum. There was no hemorrhage externally while she was in labor, the head of the child blocking up the pelvis so as to prevent it, but a large amount of blood had escaped into the abdominal cavity. The immediate cause of death was excessive hemorrhage. As to the cause of the rupture I am not prepared to say. The appearance of the child was healthy.

My second case occurred last summer. Mrs. A., aged forty-two, in her sixth confinement, was taken in labor about 9 P. M., and sent for her family physician, who saw

her a little before midnight. From him I learned that from the time he saw her until early next morning, she was, to all appearance, doing well; that her pains were regular, and continued to increase in frequency as well as severity until about 7 A. M., when, all of a sudden, they ceased entirely; that she commenced to flow externally, became livid, with difficult respiration, etc. It was at this crisis I was sent for in great haste, a distance of five miles, with instruction to bring my obstetrical instruments. The message was delivered, and I responded promptly. It was 9 A. M. when I reached the place, when, to my surprise, I learned that the lady had been dead about half an hour, the attending physician having left.

From the history and information which I gathered from the friends and relatives, I became convinced that she had died from rupture of the uterus, and so expressed myself to the friends, all of whom were very anxious to have a *post-mortem* examination. I left with the understanding that I would return at 4 P. M. with Dr. Jones, and that their family physician should be notified of the intended examination. One special object I had in view in making the autopsy was to avoid the censure which was being dealt out without measure to their physician, believing, as I did, that he was not to blame in the case. Every physician knows how ready and willing a community is to cast reproach upon the medical profession in those unfortunate cases, no matter whether blameable or not. The *post-mortem* was held at the time agreed upon by the parties. The usual incision was made, and revealed the uterus, in which a fully developed child still remained, notwithstanding a large transverse rent, from six to eight inches in length, on the anterior portion of the uterus, about four inches above the os. The lesion in this case was undoubtedly the result of inflammatory action, as there was a space about an inch and a half wide, extending nearly one-half the circumference of the impregnated uterus, in which the rupture had occurred, and in which a change of structure, texture and color had taken place, to such an extent that I could readily pass my finger through the diseased part with but little resistance.

In the first case described, I scarce know what I should or could have done if I had been there when she was first taken sick. From all that I could learn, her pains at

first were regular and natural, but subsequently became terrific, and then, all at once, abruptly ceased. Could a competent accoucheur, under those circumstances, have foreseen the difficulty and danger and have saved the life of either the mother or child? In the second case, had I been with the mother at the time of the rupture with my instruments, I believe I could have delivered her, and, perhaps, have saved the life of the child; as labor had so far advanced that the child's head could have been easily reached with the forceps and delivered. As to saving the life of the mother, I believe that to have been out of the question, owing to the diseased condition of the uterus. Her husband informed me that she had complained of a pain in the lower part of the abdomen during the last three months of her pregnancy, and had all the time persisted in the idea that she would never live through her confinement.

A rupture of the uterus is one of the most dreadful and fearful accidents than can possibly happen to a parturient woman. It is fortunately of very rare occurrence, there being many physicians, who have practiced from thirty to forty years, and have done an extensive obstetrical business, who have never been so unfortunate as to have met with a single case.

The Use of Thymol in Burns and Wounds.

BY DR. FUELLER, OF NEUKIRCHOF.

[Translated from the *Homöopathische Rundschau*, June 1, 1880.]

A FURTHER very satisfactory application for thymol has been found in the treatment of extreme burns. As is well known, there have been numerous efforts made to apply the antiseptic method of treatment to burns, for the purpose of preventing the over-production of pus, and by this means to prevent undue cicatrization. As far as I am acquainted with the literature on the subject, Prof. Busch, of Berlin, in an article on the application of Lister's treatment to burns (Vol. 22, *Arch. Clin. Surg.*), first made mention of this treatment. There is also an instance mentioned by Prof. Von Nussbaum, in his brochure of instructions on the antiseptic treatment, and both of these

gentlemen declare themselves well pleased with the results obtained, especially in the smoothness of the scars.

The cases of burns occurring in this district are most frequently caused by fire-damp or powder. The burns from fire-damp are often very extensive, as the explosion of the gases takes place even in the space between the skin and the clothing. In burns from powder explosions we find the surface frequently filled with particles of powder and coal, which occasion inflammation and purulent discharge, most usually on the surface of the face and hands. It is not possible, in such cases, to cover the face with an occlusive bandage, and in the case of burns which cover a large part of the back or chest, besides the face and extremities, it is not advisable to cover so large a surface with carbolized gauze, the poisonous properties of carbolic acid in themselves forbidding such a proceeding. I have, therefore, adopted the following process for the treatment of burns, and have used it in fifty cases, which number were usually healed in three, and not later than four weeks, without any scarring, at least with smooth and tender, though somewhat reddish skin. There were two exceptions, in which death resulted from complications. Each patient, as soon as admitted to the hospital, receives a warm bath. The burnt surface and its surroundings are then washed with an aqueous thymol solution, of one to 1,000, followed by the application of thymol spray for several minutes. The blisters are not disturbed, but are handled with extreme care. The raw surface is then painted with a one per cent. thymolized linseed oil. The patient is then laid on a waterproof mattress, the temperature of the room being kept comfortably warm. Particles of coal or other foreign matter, if not too minute, are, as a matter of course, at once removed. It is often very difficult to so lay the patient that the burned places are relieved of pressure, and it is frequently necessary to allow him to remain in a sitting posture, sometimes for several days, with support for the chin, or even *a la vache*, by suspending him by means of wide strips of muslin, passing under the chest or abdomen; the strips being fastened above. The application of thymol should at first be repeated every ten minutes, and, as it relieves pain very remarkably, the patients themselves call for it. For this purpose we use large, soft-haired paint-brushes. At first the oil is absorbed somewhat rapidly, and as soon as

this has occurred, a sensation of intense burning follows. The applications are gradually made less frequently; as an indication of their necessity, the appearance of the skin is sufficient. As soon as the oil is entirely absorbed, it should be replaced by a fresh portion, as it is important to prevent contact with the air. During the first few days the thymol spray is also applied as often as possible, which does much toward alleviating the pain. As before mentioned, the blisters are allowed to remain undisturbed, so that the cutis may be protected from the influences of the air, or, rather, from septic matter contained therein; the liquid which they contain is usually absorbed, the blister contracts, dries and falls off, while a new epidermis is formed. Only in case of the serum becoming turbid, is it removed by opening with the scissors; this, however, is rarely necessary until about ten days after the accident. The scissors used are, of course, previously disinfected, the incision also being made under the spray, and is at once followed by an application of the thymolized oil, before described. The secretions, with remains of the epidermis and the oil itself, which is disposed to dry out, form a moist crust which is very effective in preventing the entrance of bacteria, or irritating septic matter. When the applications are decreased in frequency, the crust becomes drier, and, finally, after separation, we find a tender, reddish skin, which can not be called a scar, as it possesses no unevenness of surface, and is perfectly elastic.

The practical experience with this method has been attended with such favorable results that I communicate it in the hope that others may continue it, and especially in mining districts. During the first weeks we frequently observe an elevation of temperature, at times to over 39° C.; the patient, however, does not find the fever oppressive, nor is there much thirst, the tongue remaining moist and the appetite good. Delirium has not been observed in any case. The patient escapes septic fever, the tissue which has been destroyed, often considerable in amount, being completely disinfected before being liable to absorption. The patient is free from pain, and the principal complaint, quite universal, is the one occurring in all cases of serious burns, the chilly sensations.

Unsanitary Condition of Summer Resorts.

At a time when a large majority of our citizens have returned, or are about to return, to the city after the summer vacation, it is far from gratifying to learn that during the time of their sojourn they may have been exposed to all the dangers that belong to unsanitary surroundings. And yet this is a possibility which can be proven by the stern logic of facts as gathered from different authentic sources. For instance, in the recent report of the State Board of Health of Massachusetts, we have presented by Mr. Bowditch, an engineer of Boston employed by the Board for the purpose, a detailed account of the sanitary survey of several health resorts in that State which is highly interesting in connection with the subject under consideration. The investigations centered upon Martha's Vineyard and its system of drainage, and afterward included other noted summer resorts within the jurisdiction of the Board.

Mr. Bowditch, as the result of his critical survey, arrives at the somewhat startling conclusion that scarcely one of the one hundred and fifty hotels or summer boarding-houses examined by him is in a wholesome sanitary condition. The details of these examinations, as might be anticipated, repeat the old story of insufficient drainage, cesspools and privy-vaults in close proximity to wells, and perpetuation of the means of sewage disposal that possibly originated with the early Puritans. And when there appears a desire to improve upon the old system by some enterprising landlord, the result is so far from what it should be, that new dangers are superadded and extra risks to the health of the inmates are taken. Upon this point he pertinently remarks:

"In looking over and testing the sanitary arrangements of summer dwellings it is curious to see how the typical New England privy and sink-drain have been perpetuated, either as a whole or in part, and how very few people have even attempted to improve in this direction. Occasionally a hotel proprietor announces with pride that he has just purchased the very best water-closet that money will buy; or that all the faucets in the house are triple-plated and of extra size; but it seldom occurs to him that possibly the soil-pipe into which the water-closet empties may be a condemned water-pipe, or that his fau-

cets may drip into untrapped sinks—that there is even a possibility of there being anything wrong in the system.”

Substantially the same thing may doubtless be said of the summer hotels all over the country. And this condition is not limited to the second-rate establishments or to the commoner farm-houses which have been prepared in the ordinary way for the reception of boarders.

The same evil exists, proportionably magnified, in the leading caravansaries of the country. Only recently the New York *Herald* gave a detailed account of the system of sewerage on Coney Island, which shows how little has been done in that locality toward supplying the sanitary wants of the large number of visitors who constantly throng there. The disposal of sewerage in holes in the sand, or in small and sluggish streams, is but inviting an unsanitary condition of things second only to that which was so recently found in Memphis. Taking the country through, including the thousands of farm-houses which are used for city boarders, it is safe to say that there is not a greater proportion of landlords who have attended to the necessary sanitary requirements than is mentioned by Mr. Bowditch. It is the rule in all suburban districts to find sanitary regulations at a discount.

The typical farm-house, for instance, has its privy pit, refuse drain, barnyard and well within convenient distances from each other, because all must be near the house. In one of the cases noticed in the Massachusetts Health Report, a small barrel was placed against the well curb, because such was a handy situation for the servants. In another instance the cesspool was directly under the parlor windows, and was so offensive that it kept the proprietor awake at night. On this account it was removed to a slightly more convenient distance. In a well, selected at random, four privies and one cesspool were situated within an area of twenty-five feet. But to follow the report any further as regards these points would be a needless repetition of detail.

The same state of affairs as found in isolated houses are multiplied in the smaller villages, and with a corresponding increase of danger to the inhabitants. The existence of privy pits in close proximity to wells is part of the history of a large majority of the villages in this country. The startling disclosures regarding the water-supply of Memphis and the condition of its subsoil drainage in that

city have more or less of a parallel in many large towns. The natural growth of our villages has had a great deal to do in inviting a neglect of sanitary rules. From mere settlements they have grown to towns and cities, each householder taking care of his own drainage and getting it as far from him as he could, irrespective of his neighbor. It is easy to imagine how soon the soil may be saturated with disease germs, and how, at no distant period, the extra virulence of an epidemic in certain localities may be explained.

In the religious camping-grounds there is being developed a condition of things which sooner or later will call for a radical change in the systems of drainage and water supply. Like the resorts on Coney Island, the population during the summer months reaches to many thousands, and, like Coney Island, no suitable provisions are made for the sanitary safety of these large numbers. They are examples of cities that have sprung from nothing, with the requirements of metropolitan centers, and yet with the sanitary conveniences of the merest country boarding-houses. In some quarters the managers of these resorts have striven to meet the emergencies, but at best with quite indifferent success; while in other places, like the managers of smaller country hotels and farm boarding-houses, they have calmly ignored the whole subject.

It is not fair to suppose that these unsanitary conditions are the result of obstinacy on the part of those who should remedy them, but to ignorance of ordinary sanitary laws. Not that the average landlord and the thrifty manager do not know that it is to their interest to keep their premises clean and healthy, but that they are ignorant of the best and most economical ways to accomplish it.

The real remedies very naturally suggest themselves in this connection. There is obviously a need among the people for education in the simpler principles of sanitary requirements, and also a necessity for systematizing such for the good of the greater number. Naturally the various Health Boards are the bodies to which we must look for efficient work in this direction. Inspection first; suggestions next; and lastly, if necessary, the systematic enforcement of sanitary rules. The Massachusetts Health Board has shown a good example in this direction, and other State and local Boards of Health will do well to

follow it, resting assured that in no more profitable field of sanitary investigation and reform could their best energies be directed.—*Medical Record*.

The Alum Plug in Uterine Hemorrhage.

THE speedy method of arresting uterine hemorrhage by placing a lump or crystal of alum in the vagina, originated with Prof. R. Beverly Cole, of this city. As long ago as 1860 he drew the attention of the profession to its merits. The article describing its mode of application, etc., may be found in the San Francisco *Medical Press* for January, 1860, and in the American *Medico-Chirurgical Review* for July, 1860. It is also summarized in the New Sydenham Society's Year-Book of Medicine for 1861.

In the Louisville *Medical News* of April 3d, there appears a glowing eulogy of the alum plug, from the pen of Dr. R. W. Griswold, of Rock Hill, Conn.; who, while laying no claim to the invention himself, does not know to whom it should be credited. He says:

"And this brings me to the point of speaking of my own method of treatment, viz.: the introduction of the *alum egg*. . . . For the last twenty years my reliance has been on a junk of alum in the vagina. If this is not at hand I take the next best thing that is; but a junk of alum is a part of the contents of my medicine-box. It is of the size of a large hen's egg, ovoid in shape, and generally left a little ragged, though without sharp points. Around the middle is cut a groove, about which is tied a bit of strong but not large twine, leaving the ends so that they can hang out of the vagina. . . . This treatment is easy, speedy and effectual against further hemorrhage. It has never failed me, and I leave a patient with the feeling that she is safe for the next twelve or fifteen hours, so far as danger from further bleeding is concerned. And I may add that I have never had any unfavorable effects follow its use in any one of the scores of cases in which it has been employed—no fevers, no septicemia, no deaths, no anything untoward—and I have never had occasion to use it the second time in any one case.

"Perhaps this is nothing new; but as it is something I have not seen mention made of in any of the standard works that have come under my observation, nor in spe-

cial papers, nor have ever heard of in the lectures of the schools, I venture to submit it to your columns, and through them to professional notice."

Whether this simple yet effectual expedient is mentioned in "any of the standard works" we know not, but certainly it ought to be. Dr. Cole has advocated its employment in a certain class of cases for the last twenty-three years. As Professor of Obstetrics and Gynecology in the University of California, he has taught it in his lectures and demonstrated it in his clinics to successive classes of students, and there are few physicians on this coast who are not familiar with its value in the hemorrhages of abortion, etc.

These facts are submitted to Dr. Griswold and the Louisville *Medical News*, knowing how ready they will be to place the credit where it belongs.—*Western Lancet*.

Abscess of the Liver.

THAT abscess of the liver obtains more frequently than is generally known, I am well convinced. Three cases have come under my observation within a year, and I feel quite certain that others have been overlooked. The case of Dr. E. S. Gaillard, a reprint of which may be found in our March number, stimulated me to a more vigorous pursuit, careful examination and studious investigation of this whole subject. Our readers might do well to turn to that article and study it carefully. Many hints of value may be gained in diagnosing abscess of the liver from the history of this case.

On September 5 I was called fifteen miles in the country to see August De Jail, a farmer, about forty years old, who had been suffering from some doubtful ailment for two months. The attending physician, not being present when I reached the patient, I did not venture to make such a thorough examination of the case as seemed positively necessary; and the physician in charge being an allopath, still further restrained me. But I was forcibly impressed, by the examination hastily made, that the man was suffering from abscess of the liver—right lobe. And I went so far as to express my convictions to the patient and friends, at the same time promising to see the patient again the next evening, when the attending physician should be

requested to meet me, that we might arrive at some definite and satisfactory conclusions and course of treatment. Pursuant to this arrangement, we met on the evening of the 6th, about 10 o'clock. The attending physician had seen the patient during the day, and had expressed doubts about the correctness of my views, and when we met he was still lingering in doubt. But we carefully examined the case, and, by imitating the process described on page 98, this volume of the *Journal*, we became satisfied that an abscess was found. So firm were my convictions from the first examination that an abscess existed, I took an aspirator with me the second visit, and proposed to use it at once, after a consultation with the attending physician. He reluctantly consented, but the patient and friends showed great anxiety, and expressed eager desires to have the operation performed.

Looking at the patient before us, as he lies on his back, we observe a picture of distress. The eyes express anxiety and helplessness. The corners of the mouth are drawn backward and downward. Respiration about twenty per minute. Pulse one hundred and rather feeble. Temperature a little above the normal standard. Has a hectic fever with evening exacerbation. Considerable emaciation, with edema of the lower extremities. He suffers from pain in the region of the liver and stomach. Bowels move once daily. No appetite, no sleep. This is an outline picture of our patient before using the aspirator.

All being ready and willing, we gave the patient a little brandy and aromatic spirits of ammonia, adjusted the aspirator, smeared a little carbolized petroleum upon the needle, and at a point about two inches in advance of a line drawn from the axilla to the pelvis, between the eighth and ninth ribs, through the intercostal space, we thrust it to the depth of two inches and a half. At first, nothing appeared in the tube or receiver, but I could readily detect, by a little handling of the needle, that it was in a free space—not in a solid body—and ordered a little stronger pressure by further exhausting the air chamber of the aspirator, and the pus began to flow, and continued to run until three pints were drawn. This removed all doubts about the abscess. The only question now is, can we succeed in holding the man up; can he possibly recover? Well, he stood the operation bravely, without a whimper, and expressed himself as feeling

greatly relieved. Ordered maltine wine, with dilute phosphoric acid. For three days he was comparatively comfortable. His appetite returned, he slept better, and fever was of no consequence. After this he gradually grew more restless, more feverish, and complained of pain in the region of the liver and stomach. On the 12th, the seventh day after the operation, I visited him, and found that the cavity had filled up again, and felt satisfied that we should have to resort to the aspirator a second time, at least.

On the 15th I used the aspirator for the second time, and drew off five pints of pus. This again gave comparative relief, but our hopes of a cure were very much weakened by this rapid accumulation of pus. But we determined to see what we should see. At all events the aspirator is our main dependence. Continued maltine wine and dilute phosphoric acid. On the 19th I visited the patient and found that he continued to feel better from the hour we left him, the Wednesday night we used the aspirator last. Had but little fever since, tongue cleaning, pulse slower and better, has some relish for food and had walked across the room twice. A careful examination revealed the fact, however, that pus was still accumulating in the cavity, but not so rapidly as before. We order the maltine wine and dilute phosphoric acid continued, promising to see him again within a week, and, if necessary, use the aspirator again.

We shall watch and handle this case carefully and report the final result in a future issue of the *Journal*.—*American Medical Journal*.

Origin of Blood-Corpuscles.

A MEMOIR by Pouchet, which has recently appeared in the *Revue Scientifique* (and which has been translated in the current number of the *Quarterly Journal of Microscopical Science*), discusses the interesting subject of the mode of production of the red blood-corpuscles. It is not a little remarkable that the origin of the formed elements of the blood should still continue to be a matter of hypothesis, and that physiology is incapable of replying to the question, How, after large losses of blood, is its restoration effected? The present generation of prac-

tioners are hardly aware of the quantity of blood that was taken from patients in acute disease by the physicians and surgeons of the past age. If works, written in the early part of the present century, are referred to, some surprising facts of this nature will be found. At the time when Sir W. Lawrence's treatise on the "Venereal Diseases of the Eye" was published—that is, in 1830—bleeding was the approved method of treating gonorrhœal ophthalmia; and, among other cases he records in that work, there is one of a pugilist, who was, no doubt, an athletic, freely living man, but who, having contracted gonorrhœal ophthalmia, was admitted into St. Bartholomew's Hospital, and from whom the surprising quantity of one hundred and fifty-two ounces, or nearly eight pints, reckoning twenty ounces to the pint, were abstracted by venesection, besides the application of thirty-two leeches, in the short space of one week. Nor was this a solitary case, for several others are recorded in which nearly equal amounts were taken. It is worth noting that the pugilist recovered with perfect vision. In the case of women, again, enormous losses of blood are often sustained in menorrhagia, which are yet quickly restored under favorable circumstances. Rindfleisch has made an estimate of the rapidity with which the reproduction of new corpuscles must take place in ordinary intermenstrual periods, and calculates that half a centigramme of blood is produced every minute, which means that about one hundred and seventy-five millions of red blood-corpuscles are produced every minute. When thus reduced to figures, it seems extraordinary that no answer can be given to the questions how and where this enormous proliferation is effected.

Is the process of renewal performed in some obscure organ whose function has been overlooked—the suprarenal capsules or thymus or thyroid gland, for example—or is it that the corpuscles, similar as they may all appear to our methods of investigation, are derived from many different sources, each set having its own special and definite functions, and differing in structure, purpose and destination from all the rest? The results of modern physiological research seem to point in the latter direction. Not many years ago the corpuscles were believed to be exclusively derived from the chyle, and Hewson's observations, to which Mr. Gulliver did good service in calling

attention, were essentially in favor of the mesenteric glands being the bed for the production of the lymph corpuscles, the nuclei of which acquired color and became the red corpuscles. More recently, however, the claims of many other parts of the body to be hæmatopoietic organs have been with more or less probability advanced, and the share of the spleen, the liver, the muscles, the cancellous tissue of the bones, and the peritoneum, in the process of blood formations, has been urged by different experimenters. Objections may, however, be raised to nearly every hypothesis that attributes the origin of the hæmatids to a single source. Even in the case of the lymphatic glands it may fairly be urged that they can not be exclusively concerned in the generation of the red corpuscles, since such glands are wholly absent in fishes; and the same objection may be taken to the view of Neumann and Bizzozero in favor of the cancellous tissue of the bones. And granting even that they are formed here, by what means do they traverse the walls of the capillaries, and how are they impelled into the current of the circulation? The fact that the spleen is absent in some animals, as the lamprey, and may be removed even in the higher animals and man without rendering them anæmic, disposes of the idea that it does more than aid in the genesis of blood-corpuscles, and, as Pouchet remarks, little weight can be attached to the statements that a new function can be vicariously performed by other organs of a totally different structure.

In regard to the derivations of hæmatids from the lymphoid patches of the mesentery, these regions can evidently play but a small part in the production of new corpuscles. Ranvier has, indeed, observed hæmatids originating in the midst of the vessel-forming tissue. But if this view be correct, the repair of lost blood would be necessarily associated with the production of new capillaries, which has not been demonstrated. This view, which is held by M. Pouchet himself, that the real origin of the blood-corpuscles is to be looked for in the hæmatoblasts or minuter form of globules, has been described by Hayem, and long before him by Donne, under the name of globulins. These bodies probably originate in the blood plasma, being primarily formed of albumen, to which subsequently the crystalline substance hæmoglobin is added, causing a great increase in the volume of the globulets. In the

blood of animals undergoing repair after large hemorrhages, an extraordinary number of hæmotoblasts or globulets may be observed. These rapidly enlarge in all directions, lose their granular aspect, and become hyaline, and, finally, assume the discoid form and the yellowish tint of the full-formed corpuscle. The hæmatids are on this view neither cells nor the descendants of cells, but may, like Topsy, be said to have simply "grewed." It would seem that the generation of the red corpuscles is still a dark corner in physiology, and some further observations are still requisite.—*Lancet*, July 31, 1880.

On Pilocarpin in Asthma.

DR. WILLIAM L. MACKESY, M. B., writes, in the *British Medical Journal* of August 7:

P. M. is a warder of H. M. Prison, Waterford (of which I am surgeon), and is about fifty years of age. His heart and lungs are perfectly sound, and neither father nor mother suffered from asthma. He had been for many years in the Royal Irish Constabulary; but, having one day fallen asleep in the open air, he awoke very much chilled; and from this he dates his first attack of asthma. He tried to carry on for some time, but the attacks becoming more severe and frequent, he had to leave the constabulary service. He then entered the prison service as warder; and his health, although he still suffered from occasional attacks, was much improved for about five years. This I attribute, in a great measure, to the exceptionally high ground on which the prison is placed. Last October, however, he was again attacked by asthma, complicated by acute bronchitis of both lungs, and very nearly lost his life. He, however, recovered, but since this time has been a martyr to the disease, with occasional remissions for a few weeks, and from the 4th of April, 1880, to the end of last June, had entirely to give up his duty. I tried all the usual remedies; smoking of stramonium and datura tatula, bromide of potassium, lobelia, etc.; also, I am almost ashamed to say, some patent papers for burning, viz.: ozone-paper and Palmer's anti-asthmatic papers (the latter, it is only fair to state, in general, giving prompt relief to the dyspnœa). He was about resigning his position in despair, when Dr. Berkart's valuable articles on

the treatment of asthma fortunately appeared in the *British Medical Journal*, and, on June 25, I gave him his first injection of pilocarpin, using Messrs. Savory & Moore's disks for the purpose, and commencing with one-twelfth of a grain. This had no perceptible result; so next day I increased the dose to one-fourth of a grain. This was followed by the usual effects—salivation and diaphoresis. There was no depressing effect on the heart's action, and he spent an unusually quiet night. Next day, and every day following for a week, I injected one-third of a grain with most beneficial results. One day, indeed, he suffered for a short time from nausea and vomiting, but this soon passed off. He resumed his duty as prison warder on July 4, and he informs me that he now sleeps the whole night, and, with the exception of a slight "choky" feeling on awakening first thing in the morning, which soon passes off, says he "never was better in his life." I am at present giving him arsenic internally and an occasional injection of pilocarpin. His appearance is much improved, and he is evidently increasing in weight.

College of Physicians and Surgeons, New York.

Clinical Service of Edward C. Seguin, M. D., Professor of Diseases of the Mind and Nervous System.

[Reported for the *Philadelphia Medical Times*.]

GENERAL PARESIS THE RESULT OF CRANIAL INJURY.

THE patient before you is a man forty-one years of age, and a laborer by occupation. About seven months ago, while engaged at his work, a sledge-hammer, in the hands of a companion, when raised in the air, and about to be brought down upon a stake, which they were driving (or something of this kind), got caught in a pulley overhead, and, thus being deflected from its course, struck him upon the left temple. He was knocked senseless, but it was found that there was no bruising or tearing of the skin. When he recovered consciousness (which he did in quite a short time), he did not suffer from vomiting or headache, and, indeed, had no symptoms whatever until about six weeks ago. At this time he was taken ill, and was obliged to go to bed; but it is impossible, from the man's account of the attack, to form any definite idea of its nature. He

first noticed a weakness and numbness of the hands and feet, and, later, was troubled with headache, dizziness and blurring of vision. There was no diplopia, but occasionally he had hallucinations of sight, the imaginary objects that appeared being such as were connected with his daily work. Whether there was really delirium or not it is impossible to say, but there does not seem to be much doubt, from what he says, that there was more or less fever during the illness. This, of course, is a very unsatisfactory history; but we are obliged to content ourselves with it.

One week ago the patient was able to get about again, and since then, in addition to most of the above symptoms, which still remain, he has had considerable nausea and vomiting. The headache is principally located on the left side (that on which the blow was struck, you will remember), but is not confined to that, as it is also felt, to some extent, in the occipital region. The dizziness is quite marked, and, if he rises suddenly from a chair, for instance, it becomes very great. If we practice percussion or palpation on the left side of the head, we find considerable hyperæsthesia in the temporal and parietal regions, which is not the case on the right side. The dynamometer registers only nineteen and twenty-three for the right hand and eighteen and twenty-two for the left. This is exceedingly weak for the grasp of a workingman (not more than one-half what it should be normally), and, indeed, shows some loss of power since he was first examined by me a few days ago. When he walks, you perceive that he has a very staggering gait, and that he inclines distinctly to the right. Still, it is not at all like the gait of hemiplegia, but resembles very much that of an individual who is convalescent from some acute disease. From the weakness and numbness of the extremities, therefore, we conclude that he has general paresis. The pupils are normal, but the ophthalmoscopic examination shows that there is well-marked atrophy of the right optic nerve, as well as commencing atrophy of the left. There is, however, no neuro-retinitis, the outline of the disk being more distinct than usual. The heart is found to be normal.

On testing the sensibility of the fingers and forehead, it is seen to be quite unimpaired. About the face and forehead there has never been any numbness complained of,

but this has been a marked feature in regard to the hands I have often had occasion to remark on the difference between numbness and anæsthesia, which are so frequently confounded not only by laymen, but also by a large number of physicians. There is really no connection between them, and many years ago Brown-Sequard demonstrated that numbness represents an irritation of a sensory tract, while anæsthesia, on the other hand, expresses destruction of gray matter. Here there is no anæsthesia, the æsthesiometer showing that the sensibility is good both in the forehead and the fingers. The tongue is protruded in a perfectly straight manner, and there is no evidence whatever of any facial palsy. Over the supra-orbital nerve, as well as the scalp, there is considerable tenderness on pressure. Tendon reflex is found to be more marked than normal. Finally, there is no trouble with the bladder.

This case illustrates very well the remote effects of cranial injuries. The precise diagnosis is, indeed, a matter of some difficulty, but there seems to be little doubt that the lesion here, whatever may be its nature, is bilateral and basal as to location. We infer that it is bilateral because the results produced by it are not confined to one side of the body, and that it is basal because the phenomena in the case are chiefly motor in character, while the intellectual faculties are, apparently, not at all impaired. The staggering gait and other characteristics are plainly in support of this location as the seat of injury, indicating that it is just above the floor of the anterior fossa of the cranium. Whether the patient has at present anything more than a meningitis I am not prepared to state, but still I am of the opinion that his trouble is, at all events, principally meningeal, and that it involves the optic nerves, the *cora cerebri*, the pons Varolii, and other motor portions. I am not sure, however, that there is no parenchymatous lesion in addition, from the fact that no symptoms are produced as the result of injury to the first and second frontal convolutions of the hemispheres and the white matter beneath them, with the exception of headache in a certain proportion of cases. For instance, large abscesses, as I have previously had occasion to remark, may remain for a long time in this portion of the brain without any suspicion of their presence being entertained.

In the way of treatment, counter-irritation and iodide

of potassium are the agents upon which we commonly rely in traumatic meningitis, as well as cerebritis, although the latter is less amenable to any therapeutic measures. At the best, however, I fear that the prognosis in this case is anything but favorable. After a longer or shorter period I should expect epileptiform seizures to ensue; and it is, indeed, a matter of some surprise to me that the patient has not suffered from them before this. What I should recommend here, as the only course of treatment that offers any chance at all of success, would be for the man to keep perfectly quiet at home, remaining the greater part of the time in bed, and that both counter-irritation and the iodide of potassium should be persistently and continuously employed.

I believe that, as a general rule, practitioners of medicine do not have a correct appreciation of the results that are liable to follow a comparatively slight injury to the cranium, and many cases are thought to have recovered entirely which, if they were to remain under observation for a few months longer, would be found to terminate in very serious cerebral lesions. It is a fact, also, that a large number of children's heads receive injuries from falls, and in other ways, which entirely escape notice, as it is, of course, to the interest of the attendants to conceal their occurrence; and even when parents are aware of them they do not often attach any significance to them. Some time since, I saw the case of a child, in consultation with Dr. Weir, of this city, in which we made a diagnosis of meningeal hemorrhage, although no history whatever could be obtained of a traumatic origin of any such trouble. There were convulsions, followed by unconsciousness and a tetanoid condition, which lasted for several days, when the little patient died. Unfortunately, no autopsy could be obtained, but there could be little doubt of the diagnosis, since, after the death of the child, the nurse, whose conscience seems to have been quickened by the fatal termination of the case, confessed that shortly before the commencement of the illness it had fallen backward and struck its head. The injury thus received was in all probability the determining cause of the meningeal trouble.

Six years ago a boy was brought to this clinic who staggered in his gait, and was found to be the subject of partial paralysis, which affected one side of the body

more than the other. He also suffered from violent headache, strabismus and other symptoms denoting brain trouble. The diagnosis made was that there was some lesion of the cerebellum, and that this was probably of the character of an abscess. When death at length occurred, it was found, however, that this was not the case, the autopsy revealing the fact that there was cerebritis, with thickening and swelling, which involved the pons Varolii.

Perhaps the most common result of cranial injury is convulsions; and such a traumatic origin is often found in the history of epilepsy. In many such cases we can see the cicatrix where the injury was received; and experience shows that patients suffering from this form of epilepsy are usually incurable. In adults insanity also not infrequently results from the same cause: so that it has been found that out of all cases of insanity from five to eight per cent. are due to concussion, fractures and other injuries about the head. Some authorities estimate that the percentage is even higher than this. I am fully convinced, therefore, that individuals receiving cranial injuries should receive the most careful attention on the part of their medical attendants, and especially if there is any evidence of concussion present. If a child, for instance, after falling and striking the head turns pale and vomits, it should be kept perfectly quiet, and closely watched for a year following. Every slight symptom that appears should be looked after assiduously, and if the least evidence of paresis manifests itself it should receive the promptest treatment by means of counter-irritation, the iodide of potassium, and other appropriate measures.

Another point. If the injury is about the parietal region we are apt to have local paralysis on the opposite side of the body, because the motor zone in the brain would probably be involved in the lesion resulting. In such cases the best results are often obtained from trephining.

Finally, it is found that brain-tumors quite frequently result from cranial injuries. This at least has been my own experience, although all observers do not concur in this opinion. Did time permit, I might mention a considerable number of instances of such tumors that could be traced to a traumatic origin. Many of you will no

doubt recall the case of the boy in the institution on Blackwell's Island which I related to you last week, in which at the autopsy an enormous sarcoma was found that occupied fully one-half of one of the hemispheres. The starting-point of the difficulty had been a fall upon the head, which caused a fracture behind the coronal suture.

I will also allude to one other case, by way of example. Some time since I was called to see a case at Honesdale, Penn., in which the patient suffered from epileptic attacks and other cerebral symptoms which I need not describe here. On inquiry, I found that he had fallen from a wagon and struck his head, and, although there was no evidence of external injury about the cranium, concussion had undoubtedly been caused by the accident. The diagnosis that I made was meningitis; but after death a tumor as large as an orange was found. This, however, had given rise to marked meningeal lesions, and so I was right, in part at least, after all.

That tumors are not infrequently the result of traumatic causes is not true merely of those of the brain, since it is well known that various kinds of neoplasms are apt to originate in injuries of greater or less severity. Thus, epithelioma of the lip sometimes comes from the slight pressure of a pipe upon the part in smoking, and tumors of the breast, whether cancerous or sarcomatous, very frequently are due to a contusion. In claiming the same traumatic origin for cerebral tumors, I am not, therefore, stating anything that is not in strict accordance with the ordinary laws of general pathology.

MICROSCOPY.

The Blood in Extreme Anemia.

M. HAYEM classes under the title *aglobulie intense* all those cases of anemia characterized essentially by a globular richness of 2,000,000 to 800,000, and under the title *aglobulie extreme* the cases in which the number of globules varies between 800,000 and 450,000. The following are some of the special modifications of the corpuscular

elements that he observed in these two classes of anemia:

1. When a thin layer of normal blood is dried rapidly on a glass slide and covered with a cover-glass the red globules and hematoblasts remain indefinitely without losing their hemoglobine. On the other hand, in similar preparations of blood of persons affected with aglobulie intense, the hematoblasts and a certain number of the red globules are often seen at the end of one or more days to be surrounded with circles of small crystals, which are at first isolated, but subsequently unite to form more or less extended arborizations. This formation of crystals is observed no matter what may be the cause of the anemia—saturine poisoning, cancerous cachexia, hemorrhages, etc. It is observed in preparations of the blood of animals made anemic by repeated venesections. The crystals are very small, yellowish, or of almost the same color as the dried globules, and variable in form. They present the same appearances in the blood of men and animals. M. Fouque has found that they have no action on polarized light. While seeking for an explanation of their production M. Hayem found that the hematoblasts of the lymph are almost all transformed in the course of desiccation into minute crystals similar to those found in the blood of animals; absolutely similar crystalline arborizations are found in dry preparations of the lymph of dogs, or of the juice from the lymphatic glands of different animals—dog, cat, rabbit, guinea-pig.

2. When a fresh preparation of the blood in these cases of anemia is examined it will be noticed that a number of the white globules contain an abnormal quantity of hemoglobine, while they at the same time retain their physical properties, and especially their ameboid contractility. Desiccated preparations contain, then, very peculiar corpuscles. These are regularly rounded or oval elements, of large size, and of a yellowish color, which is sometimes almost as pronounced, especially at the edges, as that of the red corpuscles. They are flattened by the process of desiccation, but nevertheless retain a certain thickness, and as a necessary effect are surrounded by a dark circle. At first sight these elements might be mistaken for voluminous red corpuscles, but they differ from them in several important points, viz.: In the absence of biconcavity, in

the finely granular state of their protoplasm, and in the presence of one or more nuclei absolutely similar to those of the other white globules. They are undoubtedly white globules, which by virtue of the hemoglobine they contain have retained a certain thickness in drying. At times some of these elements are so thickly colored that the nuclear mass can scarcely be seen, particularly in recent preparations. These white globules, with colored contents, are much more frequently met with than the crystalline productions. Since 1875—when he first noticed them—M. Hayem has found them in all cases of intense and extreme aglobulie from any cause. They are exact counterparts of the globules found in the lymph of animals.

3. In some cases of extreme aglobulie white globules still more strongly charged with hemoglobine are found. When treated with a fluid which fixes the blood-globules, such as that employed in their enumeration, they appear under the form of irregularly spherical corpuscles, with a yellowish, crenated and changeable border. In the dry state they are almost always perfectly round, sometimes slightly oval, and are composed of a colored ring surrounding a granular and rounded nucleus. The outer ring is as deeply colored as the red corpuscles, and the whole presents the appearance of a nucleated red corpuscle. This variety of element is rare. M. Hayem has only met with it twice since 1875, both times in cases of extreme anemia due to cancer of the stomach. He suggests the probability that the nucleated red corpuscles said to be found by some authors in leucocythemia and pernicious progressive anemia, and regarded by them as intermediate forms between the red and white corpuscles, were really elements of the above kind. Analogous elements are found in the normal state in the lymph and the red marrow of the bones.

4. Finally, in these cases of extreme anemia, the small white globules are almost always more numerous than those of normal size, and some of them are as small as the smallest white globules of the lymph.

M. Hayem concludes from these observations that the blood in these cases of extreme aglobulie contains elements that exist normally only in the lymph and in lymphatic organs; or, in other words, that it consists of a mixture of blood, properly so called, and of lymph.

Instead of considering the above-described nucleated colored corpuscles as a transition form between red and white corpuscles, he sees in them a proof of the arrest of the hematopoetic function and an essential characteristic of anemia pushed to its farthest limits. When under these circumstances improvement sets in and the blood becomes richer the colored white corpuscles disappear, and at the same time a considerable number of hematoblasts and elements intermediate between them and the red corpuscles are produced. From observation of fifty cases of reparation of the blood after different maladies, he states it as his positive belief that the hematoblasts are always the precursors of new red corpuscles.—*N. Y. Medical Record.*

Abscess of the Brain.

The Journal of Nervous and Mental Diseases, July, 1880, contains an interesting article by Dr. H. G. Beyer, P. A., Surgeon United States Navy, on Microscopical Studies on Abscess of the Brain. A number of sections from the wall of the abscess and the surrounding portion of the brain were made. The sections were stained partly in an ammoniacal solution of carmine and partly, after a thorough washing, in distilled water in one-half per cent. solution of chloride of gold. The sections were mounted in a mixture of equal parts of glycerine and distilled water. Mounting in Canada balsam or in dammar is unqualifiedly condemned. The inflammatory changes in the wall of the abscess, the white substance, the non-medullated nerve-fibers and the gray substance were all studied. The following conclusions were reached: 1. Gray substance of the brain by the inflammatory process is transformed into inflammatory or medullary elements, in the production of which the nuclei and ganglionic bodies also participate. Non-medullated nerve-fibers, through an increase of living matter in the axis cylinders, are likewise transformed into medullary elements. The same results are produced in inflammation of the white substance of the brain after the dissolution of the myeline. 2. The medullary elements, sprung from the gray or white substance of the brain, are transformed into connective tissue, either myxomatous or fibrous, and

thus the wall of an abscess in the brain is the result of the reduction of the brain-tissue, first into medullary corpuscles, next into myxomatous, and lastly into fibrous tissue. 3. Medullary elements, irrespective of which particular nerve-element they originated, when they are broken apart constitute pus corpuscles, and therefore the contents of an abscess of the brain. In the fluid of the abscess clusters of protoplasmic bodies are seen, proving a transformation of ganglionic elements into pus corpuscles by a process of endogenous new formation and subsequent division of living matter. All the stages of this process are observable within the ganglionic elements of the inflamed gray substance itself. 4. The endothelia of the blood-vessels become enlarged, coarsely granular and proliferating in the process of inflammation of the brain-tissue. The blood-vessels are found in the wall of the abscess. A consolidation of the blood-vessels, on the contrary, and a breaking up of their endothelia into medullary elements, afterward pus corpuscles, takes place whenever the tissue is destroyed by suppuration. Pus is mainly a product of the inflamed tissue itself, and not of emigration of colorless blood-corpuscles.—*Med. Herald.*

THE THREAD WORM OF THE DOG.—The thread worm (*Filaria immitis*) of the dog was described thirty years ago in the "Proceedings" of the Academy of Natural Sciences of Philadelphia, and has since been repeatedly noticed as infecting dogs in Europe, India, Japan and this country. The heart of a dog, with the ventricles stuffed with the worms, is preserved in the Museum of the University of Pennsylvania. A specimen of the heart and part of one lung of a dog containing the worms has recently been sent to the Academy of Natural Sciences by Mrs. Laura M. Towne, of Beaufort, S. C., who has also furnished a description of the symptoms shown by dogs afflicted with the parasite. She had lost several dogs, and a gentleman living on a neighboring island had lost more than thirty hunting dogs in two or three years with the same symptoms. The most characteristic symptom appears to be a peculiar cough, which is excited by any movement, especially after sleeping, ending in a violent effort to bring something from the throat, but nothing is thrown up. When they began to run violently, the afflicted dogs

would fall down and become stiff and insensible, but would in a short time get up and renew the chase. A large Newfoundland dog grew ill, exhibiting the drowsiness, lassitude, and inclination to turn round and round when he attempted to go anywhere, which marks the conduct of sick dogs, and finally became subject to spasms. He was examined after death, when one *filaria* was found lying at full length in the windpipe, and others were found stretched at length and crowded closely in the large artery. Upon cutting into the heart, the worms burst forth in bunches, slowly uncoiling themselves. They were white, stiff and wirelike, and not at all stained with blood. The large bloodvessels of the lungs were filled densely, and large *filaria* were withdrawn with some difficulty even from the small ones. The worms lived in water about twenty-four hours.—*Popular Science Monthly*.

GLEANINGS.

BY CHAS. A. L. REED, M. D., HAMILTON, OHIO.

CHRONIC INFLAMMATION OF THE LARYNX—APPEARANCES AND TREATMENT.—Dr. Thomas F. Rumbold (St. Louis *Med. and Surg. Jour.*), from advanced sheets of his forthcoming work on "Hygiene and Treatment of Catarrh," describes the appearances and presents the treatment of chronic inflammation of the larynx as follows:

I think that I can prove by inspection and treatment that fully nine-tenths of the coughs that are now treated with cod-liver oil—which when taken is as beneficial for the foot as for the throat—and by the sponge probang and brush being thrust into the larynx, are caused by a chronic catarrhal inflammation of the nasal and pharyngo-nasal cavities.

APPEARANCES.

The inspection of the vocal chords by the pharyngeal mirror, reveals them in a bright red or red color, resembling mucous membrane, instead of being pearly white, much like the white of the eye. The mucous membrane is darker red than usual, the blood-vessels larger than usual and a greater number of them. As inspection proceeds upward, the color of the mucous membrane becomes

still darker red, until the posterior nasal cavities are reached, where it is bluish red. The pharynx and posterior surface of the velum, when they are cleaned of the adhering muco-purulent secretion, has a relaxed appearance. The posterior wall of the pharyngo-nasal cavity as well as that of the pharynx are frequently studded with small elevations called follicles, and sometimes look like edematous drops. Sometimes the uvula is very much elongated. When such is the case, it is frequently made the scapegoat of the tickling, and uselessly excised.

TREATMENT.

The patient has a history of nasal and pharyngo-nasal catarrh that must be taken into consideration, for the treatment of the case without this would certainly be unsuccessful.

This complaint is never idiopathic, it is always secondary, a sequence of a long continued and neglected pharyngo-nasal catarrh; therefore to treat it properly, the nasal and pharyngo-nasal cavities should be treated along with the larynx, using spray producers, whose combined action will cleanse and apply remedies to the fauces, pharynx, pharyngo-nasal and posterior nasal cavities, and only sometimes the spray producers that act on the posterior wall of the pharynx down to the arytenoid cartilages and into the larynx, spraying with each instrument, one-half dram of vaseline and three or at the most five drops the following solution:

R. Pinus canadensis,	grs xv
Glycerinæ [Price's],	3 j ss
Acidi carbolici,	gr ss
Aquæ fervens,	3 ss

M. F. Sol.

The vaseline and the drops should be well mixed and made *quite warm, almost hot*, before they are applied.

These applications should be made once daily, until the prominent symptoms have abated; then every other day until the secretions cease to be purulent; then twice each week until every symptom has disappeared, taking in all from six to twelve weeks. Should the symptoms reappear in the fall or spring they should be driven off by treatments given once or twice each week. Usually four to six treatments suffice on these occasions. Fre-

quently a prescription for a laxative and diuretic will be needed, as most of these patients are of a costive habit.

Should a cold be taken during the course of the treatment, I prescribe ten grains of quinia, to be taken at bedtime and five grains next morning, with an additional laxative.

Hygienic measures are of the utmost importance with such patients. Every precaution against catching cold by day or night should be taken. A *restricted and graduated use* of the vocal chords will be found in the highest degree beneficial for all whose voice have become any way affected. I usually give the following directions:

Commence by reading for about one minute (if this can be done *without* pain), then, on subsequent mornings, read one half minute longer each time. In this way the voice will frequently regain its usual tone and strength.

To improve the singing voice, my patients have found that it was quite beneficial to fill their lungs to their utmost capacity, and, with a *little less than medium force*, sound G continuously until the lungs are completely exhausted; then in the same way sound an A, follow this by sounding F, then B, then E, and so on, going each time higher and lower, until nearly the full compass of the voice is reached, always stopping on the least premonitory symptom of weariness.

It is usually best to take these vocal exercises immediately after the treatment, that is in the forenoon, as the effect of the treatment is always, or should always, be of a relieving and soothing nature.

SCARLET FEVER.—Dr. David Prince, of Jacksonville, Ill., reports to a contemporary a case of scarlet fever with a definite period of incubation of *twenty-one* days, the disease being contracted by sleeping in a bed which had been occupied the night previous by a little girl who was two weeks recovered from the malady. This is a much longer period of incubation than is generally attributed to scarlet fever, some eminent authorities restricting the time to eight and nine days.

Dr. Prince's treatment of this case deserves mention. The bowels were kept open by *f. e. senna* with aromatics. During the acute stage of the disease he gave a teaspoonful every half hour, and afterward every hour, of the following mixture: "Place in a dry bottle one grain of

chlorate of potash and one cubic centimeter of strong hydrochloric acid. On the development of fumes add water, one hundred and twenty cubic centimeters. Shake, in order to secure an absorption of the fumes, and add one hundred and twenty c. c. of syrup. Finally, add of tincture of chloride of iron four c. c. The mixture to be well shaken and well corked." This unquestionably represents one of the best formulas for administering the chlorine treatment, and it has the additional advantage that it is eligible to the country practitioner, who nearly always has all the requisite medicines with him.

GANGRENE OF THE LUNG—RECOVERY.—The *Lancet* of April 10 contains notes of the following case, which occurred under the care of Dr. Sturgis, at the Westminster Hospital. A man of twenty-seven, who had previously enjoyed good health, caught cold, with cough, pain in the left chest, with profuse expectoration and dyspnœa, which, during five weeks, became steadily worse. At the end of that time he was anæmic, weak and thin; his breath and sputa were of the characteristic odor of pulmonary gangrene. The sputa were frothy at the surface, but had a blackish-gray layer below. On percussion there was a patch of dullness over the left base behind, about three inches square, and, on auscultating over this patch, crepitation of medium character was heard during inspiration and expiration. The other parts of the lungs gave evidence of bronchitis. Dr. Sturgis diagnosed the case as gangrene of the lung, and ordered the patient to be placed in a complete atmosphere of carbolic-acid vapor. A tent was placed around the bed-head, and vapor of carbolic acid was passed into the tent. The strength of the solution was one per cent. The patient was kept in this atmosphere for five weeks; for the first fourteen days the cough and dyspnœa were no better, but the offensive odor of the expectoration disappeared, sputa still giving evidence of pulmonary break-down. During the remaining three weeks of treatment the symptoms gradually improved, and the patient became better and stronger and increased in weight. The patient was finally discharged in good health.

THE MANAGEMENT OF THE UTERUS AFTER PARTURITION—SUBINOVENTION.—Dr. Jas. H. Etheridge, in the *Chicago Med. Jour. and Ex.*, takes the position that the post-parturient

woman should remain under the observation of the obstetrician for the first two months after her *accouchement*. He assumes that attention from the physician is demanded until involution of the uterus takes place, an act which, it is estimated, is not complete until from six to ten weeks after parturition. To support his position that prevalent midwifery is guilty of carelessness toward the post-*puerperal* woman, he adduces one hundred consecutive gynæcological cases taken from dispensary practice, embracing thirty-four cases of hypertrophy, fifty-three of uterine catarrh, nine of lacerated cervix, two of prolapsus, one of metrorrhagia and one of retroflexion. Of these, fifty traced the origin of their trouble to confinements, twenty-eight to miscarriages, five to hard work and seventeen to unknown causes. Considering the fact that child-bearing is a physiological act, the showing of seventy-eight per cent. of cases with after trouble certainly indicates mismanagement, either before, at the time of, or subsequent to, parturition.

The Doctor classifies the causes of subinvolution as follows: (*a*) Faulty nutrition; (*b*) diathetic taints; (*c*) anæmia; (*d*) obstinate constipation; (*e*) laceration; (*f*) faulty hygiene; (*g*) depressing emotion; (*h*) the marital act; (*i*) neurasthenia. The treatment recommended embraces: (*a*) Correction of all alimentary derangements; (*b*) removal of anæmia; (*c*) neutralizing of the effects of diathetic taints; (*d*) closing of lacerations and using of needed mechanical supports; (*e*) ergot by stomach or rectum; (*f*) hot water injections *per vaginam vel rectum*; (*g*) dilatation by using lint; (*h*) uterine massage. Electricity is recommended as an efficient remedy.

CASTS OF THE URINIFEROUS TUBULES—THEIR NATURE AND CLINICAL SIGNIFICANCE.—James Tyson, M. D., Professor of General Pathology and Morbid Anatomy in the University of Pennsylvania, thus concludes a paper published in the *Philadelphia Medical Times*:

1. Hyaline casts are found in all forms of Bright's disease, as well as in temporary congestions of the kidney, active or passive.

2. Epithelial casts are found in acute, sub-acute, and chronic parenchymatous nephritis. In the latter two forms the cells are generally degenerated and fragmentary.

3. Blood casts are found in acute parenchymatous

nephritis, and where hemorrhages have occurred in the kidneys.

4. Pale granular casts are found in interstitial nephritis (contracted kidney) and chronic parenchymatous nephritis.

5. Dark granular casts are found in parenchymatous nephritis, acute and chronic, and rarely in interstitial nephritis.

6. Waxy casts are found only in chronic Bright's disease, and attend either of the three principal forms.

7. Oil casts are found in sub-acute and chronic forms of Bright's disease, and attend either of the three principal forms, but are most numerous in chronic parenchymatous nephritis (fatty kidney).

8. Free fatty cells and free oil-drops are found in chronic parenchymatous nephritis.

9. The form of fatty cells, known as the compound granular cell, is found in acute and chronic parenchymatous nephritis.

TREATMENT OF PNEUMONIA.—Commenting on a case of pneumonia in which speedy recovery had followed the use of ergot, Dr. Handfield Jones states that the action of the ergot seems to have been beneficial, though he does not attribute the cure solely to its agency. Ordinary pneumonia runs a determined course, the inflammatory processes terminating by more or less rapid defervescence about the sixth or seventh day from the initial rigor, while the exudation undergoes resorption sooner or later, according to the energy of the vital powers. Results which are therefore due in reality to the natural course of the disease must not be attributed to the remedies employed; moreover, any means which affect injuriously the strength of the patient, especially those which enfeeble the heart, must be carefully avoided. Though the disease can not be cured, its severity may be materially mitigated, and life may in some cases be preserved. Ergot and liquor ferri perchloridi may check and control the inflammation, opium may allay the pain, and calm and steady the nervous system; bark and ammonia with wine may give tone to the failing heart, especially in the collapse of the crisis; effervescing salines, or brandy and soda-water with or without a dose or two of calomel, may quiet gastric irritation, and enable the patient to take food better; quinine in large doses, or the cold bath may serve in dangerous

hyperpyrexia. Dr. Jones believes that no risk should ever be incurred with the idea of cutting short the disease. He also finds that ergot has, to a certain extent, disappointed his expectations, when employed in the various inflammatory affections, and of those more especially in bronchitis.—*British Med. Jour.*

THE HYPODERMIC SYRINGE AS AN AID TO DIAGNOSIS.—Dr. Greenfield has for some time employed the hypodermic syringe constantly and systematically, more especially in the diagnosis of chest diseases, when it has given valuable information as to the presence or nature of pleural effusions. It may also be employed either as an aid to treatment, or for the actual treatment of such cases, as when it is decided to aspirate or to introduce a trocar. In such cases it is very desirable to determine precisely the lowest point at which fluid readily flows, and in the case of loculated effusions to fix exactly the site of puncture. By no means can this be done so readily and so exactly as with the hypodermic needle. Dr. Greenfield is in the habit in all such cases of using this first. He often makes three or four punctures to decide upon the most favorable spot. This having been done, the size of the needle or trocar to be used can be accurately determined, as also the depth to which it must be inserted. In the case of small effusion, and also in empyema in infants, the hypodermic syringe may alone be used, small quantities of fluid being removed at frequent intervals. The same means may also be employed in many other circumstances. To fulfill all the conditions required of it, the needle should be fine, with a grooved and very sharp point; it should be made of polished steel, and should be kept well tempered as well as scrupulously clean. The syringe should be rather large, made of glass, with metal fittings, and the piston well soaked. The junction of the needle with the syringe must be thoroughly air-tight. The needle should not be less than one inch and a quarter, nor, as a rule, more than one and three-quarter inches in length. These details are essential if the pain is to be reduced to a minimum.—*Lancet.*

MARTIN'S ELASTIC BANDAGE.—This bandage is used to effect even and persistent pressure upon swollen and inflamed limbs, thereby expelling the surplus blood from the vessels and preventing its return. It also supports

the capillaries and other vessels, and thereby promotes the absorption of effused liquids. It must not be applied too highly, as it will thus obstruct the circulation instead of merely *controlling* it. It is applied the same as a roller, care being taken that the limb is nowhere doubly wrapped, except where the bandage laps. It is as effective in relieving old as recent sprains, in chronic as well as acute inflammations of the joints.

CHIAN TURPENTINE, so highly lauded as a cure for uterine cancer by Prof. John Clay, of Birmingham, Eng., has been subjected to candid experiments by the English profession, and has failed to sustain the expectations raised by Prof. Clay's first reports. Among others who have tried it and reported adversely upon its merits, are the distinguished gynæcologists, Grailey Hewitt, of London, and Lawson Tait, of Birmingham.

ERGOT IN PHARYNGITIS.—In chronic pharyngitis, where the blood-vessels of the pharynx are enlarged and tortuous, and the secretion moderate, the following is recommended:

Ry.	Ergotine,	gr. xx.	
	Tinct. iodine,	fl. ʒj.	
	Glycerine,	fl. ʒj.	M.

Sig. Apply to the pharynx freely twice daily with a camel's-hair brush.

THE Sharker's Aromatic Elixir of Malt is a pleasant preparation of malt, which is prescribed extensively by physicians with very flattering results. An exchange reports a number of cases treated by it with marked success. It is without a number of objections possessed by some other preparations of malt, and is, consequently, tolerated by the most delicate stomachs.—*Med. Exchange.*

BOOK NOTICES.

A TREATISE ON THE PRACTICE OF MEDICINE, FOR THE USE OF STUDENTS AND PRACTITIONERS. By Roberts Bartholow, A. M., M. D., LL. D., Professor of Materia Medica and General Therapeutics in the Jefferson Medical College of Philadelphia, etc. 8vo. Pp. 853. New York: D. Appleton & Co. Cincinnati: R. Clarke & Co. Price, \$5.00.

It has been some time since the friends of the author

of this work were made aware that it was being prepared, and it affords us pleasure to be able now to announce its appearance. In the preface the author apologizes for the delay in its completion, alleging that the incessant demands of a large private practice, and the onerous duties of an exacting professional position, has afforded him but little of that uninterrupted leisure essential for literary composition. We know enough of his daily toil, the immense labor performed by him every day of his life, to know that his excuses are just.

The work is not so large as we were anticipating, consisting only of one volume of eight hundred pages, but this has resulted from the purpose of making it, so far as possible, a practical work. Matters, therefore, of "rather extraneous interest" have been omitted. Topics of general pathology, etiology, etc., with which the works on practice usually open, and which, "though sufficiently valuable in themselves, are too often passed over hastily, or not read at all, in the desire to reach the practical subjects," have been passed by. If, however, it is not so large as we had expected, it does not fall at all short in the merits which we had no doubt it would possess. In fact, when we come to examine it thoroughly, and regard it in its proper light as a *practice*, we are impressed with the feeling that its brevity is an excellence—an excellence of no little weight—especially when the brevity has been secured without the sacrifice of any important matter. Pathological discussions and historical disquisitions are given but little space—only so much of the pathology of a disease being stated, when it is described, as is necessary for its understanding—but pathology, at the present time, has become so developed that it forms a department in medicine itself, and, therefore, is best omitted from works on practice and relegated to works devoted to it exclusively. As well, almost, might a work now, on practice have chapters devoted to *materia medica* and therapeutics. This branch, then, being studied by itself, its details are not needed, and, consequently, their omission permits of no little condensation. Other matters seemingly have been regarded by the author in the same light, the book has been brought within the compass of fewer pages than we had thought, and yet everything presented belonging to a complete practice of medicine. We feel sure that Prof. Bartholow's work will begin anew in the

preparation of works upon *practice*. It will be the model work, such is the distinguished judgment exhibited in it as to what is essential and what is not. It fulfills our idea better than any work that has ever as yet been published.

As the author states, much of the matter embraced in a work of the kind is the common property of the medical profession. Nevertheless, having had a very extensive practice as army surgeon, hospital physician and private practitioner, he has had a wild field of observation and extensive experience, enabling him to speak with authority. If, at this time of advanced progress, there is not much opportunity of dogmatizing, still, one having the learning and logical discipline of Prof. Bartholow, could not help deducing many valuable conclusions in the course of the advantages he has enjoyed.

We predict for the work great popularity and a large sale. It will undoubtedly be much sought for by medical students, being so well adapted to their wants.

THE SKIN IN HEALTH AND DISEASE. By L. Duncan Bulkley, M. D., Physician for Skin and Venereal Diseases at the New York Hospital, etc. 18mo. Pp. 148. Price, 50 cents.

SCHOOL AND INDUSTRIAL HYGIENE. By D. F. Lincoln, M. D., Chairman Department of Health, Social Science Association. 18mo. Pp. 152. Price, 50 cents.

WHAT TO DO FIRST IN ACCIDENTS OR POISONING. By Charles W. Dulles, M. D., one of the Surgeons to the Hospital of the University of Pennsylvania and to the Presbyterian Hospital. 18mo. Pp. 66. Price, 50 cents.

The three little books, the titles of which we have given above, are published by Presley Blakiston, Philadelphia. The first two belong to the series of "American Health Primers," of which we have already noticed a number of works. All three contain a large amount of valuable information, worth many times the prices charged for them, and which can not be had elsewhere. The one on the skin contains a number of wood-cuts, which are very correct illustrations. As a popular work, it is well calculated to disseminate correct notions in regard to the skin and its diseases, and to instruct how the diseases may be avoided. The work on school hygiene contains very much valuable information, which should be generally under-

stood. It is well worth the study of every physician, teacher and parent throughout the country. In treating of *calisthenics*, the author speaks of military drill as follows: "Military drill is an excellent thing in general; it should, however, be restricted to the stronger boys. Small and weak fellows are easily injured by carrying a musket for a long distance. My friend, Dr. Buckminster Brown, has mentioned to me one or two cases in which he believed congestion or inflammation of the membranes of the spinal cord at the level of the shoulders to have been thus caused." The third of the three books contains much valuable information for the non-professional in cases of accident and poisoning, as in drowning and obstructed respiration generally; foreign bodies in the nose, ears and throat; fits and seizures of various kinds, effects of extreme cold and heat; injuries of the bones and joints; wounds of all kinds, as gunshot, contused, incised, lacerated, etc.; hemorrhages; railroad and machinery accidents; transportation of injured persons, poisoning, etc.

A TREATISE ON THE DISEASES OF THE EYE. By G. Soelberg Wells, F. R. C. S., Professor of Ophthalmology in the King's College, London, Ophthalmic Surgeon to King's College Hospital. Third American, from the English Edition, with Copious Additions. By Chas. Stedman Bull, A. M., M. D., Surgeon and Pathologist to the New York Eye and Ear Infirmary. Illustrated with 254 engravings on wood and six colored plates. Together with selections from the test types of Prof. E. Jaeger and Prof. H. Snellen. 8vo. Pp. 895. Philadelphia: H. C. Lea's Sons. Cincinnati: R. Clarke & Co. Price, \$5.00.

The first edition of this large standard work appeared in 1873. During some of the time since then it has been out of print, yet, in the seven years since then, it has reached three editions. Considering that it is devoted to a specialty, and is a large expensive work, and there are a great many smaller and cheaper ones of no little merit, it is evident that it is held in high esteem by the profession.

An examination of the work shows it to be one of signal merit. All of the diseases of the eye are treated by the distinguished author in the masterly manner characteristic of him. Having had an immense experience, and pos-

sessed of marked capabilities as a writer, each affection is described in a comprehensive and practical manner as regards its etiology, pathology and treatment, leaving nothing wanting. The reader is really astonished by the erudition manifested. Although the work is large, yet there is no verbiage apparent. There is nothing said that does not seem necessary to be said. It has met with the honor of being translated into the French and German languages.

Dr. C. S. Bull, the American editor, has brought the third edition fully up to the present advanced knowledge. He has made extensive additions to each chapter, especially in matters relating to pathology and treatment. Although the author has died, his work will, no doubt, continue to hold its high position.

SLIGHT AILMENTS: Their Nature and Treatment. By Lionel S. Beale, M. B., F. R. S., F. R. C. P., etc. 12mo. Pp. 353. Philadelphia: Presley Blakiston. Cincinnati: R. Clarke & Co. Price, \$1.50.

The fact that Dr. Beale is the author of a work is a sure guarantee that it is one of great merit. He stands at the head of the scientific investigators of the world. He is already the author of a number of standard scientific works, "Disease Germs," "Bioplasm," "On Life and Vital Action in Health and Disease," "How to Work with the Microscope," "The Use of the Microscope in Practical Medicine," etc.

The subjects treated in the present number are: "The Tongue in Health and Slight Ailments," "Appetite, Nausea, Thirst, Hunger," "Indigestion: Its Nature and Treatment," "Constipation," "Treatment of Constipation," "Diarrhea, Vertigo, Giddiness," "Biliousness, Sick Headache," "Neuralgia, Rheumatism," "Feverish and Inflammatory State," "Actual Changes in Fever and Inflammation," "Common Forms of Slight Inflammation."

The reader will find this work to be "*multum in parvo*." It is filled with practical knowledge, which every physician will find of a very valuable character. Dr. Beale, as those who are acquainted with his writings know, is not a writer of many words and few thoughts, but just the contrary. There is but little which he says that can not be put to account. At a future time we design discussing some of the points which he makes in this work.

The doctor says that among civilized nations a perfectly healthy individual seems to be the exception rather than the rule. In the course of his life he has not met with more than two or three exceptionally fortunate persons, who could assure him they had never suffered from any derangement of health. "A little too much food, or food of a bad kind, or badly cooked, or food eaten at the wrong time, or too quickly—a glass of bad wine, bad milk, or bad water, to say nothing of a dry east wind, or a cold, damp atmosphere, has occasioned such disturbance in the normal changes in the body, as to cause even the strongest and exceptionally healthy among us to feel, for a time, far from well."

A NEW SCHOOL PHYSIOLOGY. By Richard Dunglison, A. M., M. D., editor of *Dunglison's Medical Dictionary*, Secretary of American Academy of Medicine, etc. Illustrated with 117 engravings. Philadelphia: Porter & Coates.

This is the best work of physiology for schools with which we are acquainted. It gives a very complete account of the bones, joints and muscles; of digestion, absorption, respiration, circulation, animal heat, secretion, the senses, the nervous system, etc. It describes very well, at least sufficient for those not having the medical profession in view, all the functions of the body except generation. That is not alluded to for the reason, we presume, that the community are not as yet educated up to the point of having the subjects pertaining to it taught to the young folks in school, although there is nothing of more vital importance than it. The views held by Cicero still continue valid: "*Quarumque partium corporis usus sunt necessarii, eas neque partes, neque earum usus suis nominibus appellant; quodque facere turpe non est, modo occulte, id dicere obscœnum est. . . . Latrocinari, fraudare re turpe est, sed dicitur non obscœne: liberis dare operam re honestum est, nomine obscœnum.*" (Cic. De Officiis, Lib. 1-35). So long as these views are entertained the facts in regard to generation will be relegated to medical works. There is nothing, however, to prevent parents from becoming informed by proper books prepared for them and instructing their children at home without exciting prurient curiosity or destroying natural modesty.

The work of Dr. Dunglison, we think, will displace

many of the other works of physiology used in the common schools, as it is so much better adapted to give instruction in the important subjects of which it treats. It is certainly an excellent work.

HYGIENIC AND SANATIVE MEASURES FOR CHRONIC CATARRHAL INFLAMMATION OF THE NOSE, THROAT AND EARS. Part I. By Thomas F. Rumbold, M. D. 12mo. Pp. 174. St. Louis: George O. Rumbold & Co.

This work does not seem to be written exclusively for physicians, but for the non-professional also. The author states that he has made the hygiene of catarrh a constant study for twenty years. Under the circumstances, we would suppose that he had realized some valuable observations and experience in the management of a complaint that is oftentimes exceedingly annoying, occasioning no small amount of suffering, and worries the physician very much. A somewhat superficial examination of the work warrants us in saying that it contains a great deal of useful information and many valuable suggestions. If fashionable people would read it, it would undoubtedly conduce to the benefit of many of them. And physicians will find in it much to advise their patients, and very much to assist them in their treatment. Some, who are having difficult cases, and which are giving them no little trouble, will receive considerable enlightenment.

A TREATISE ON THE MEDICAL AND SURGICAL DISEASES OF WOMEN, TOGETHER WITH THEIR HOMEOPATHIC TREATMENT. Fully illustrated. By Morton Monroe Eaton, M. D., Cincinnati, O. 8vo. Pp. 782. New York and Philadelphia: Boericke & Tafel. Price, \$3.50.

This work is by a Cincinnati gentleman holding a high position among homeopathic physicians as a gentleman of culture and learning. It exhibits very extensive research in the literature of the department of medicine to which it is devoted, and, we have no doubt, will take position as a standard among homeopaths. In etiology, pathology, etc., it sets forth briefly and to the point the results of the most recent investigations, and is, consequently, quite abreast of the times in its information. Our author seems to be quite conversant with not only the works of American writers, but familiar with the literature of the most eminent and approved English and Continental gynecologists, and has enriched his work with

their researches. But having an extensive practice, and, consequently, a wide field of observation, he presents his own views freely throughout the work.

Gynecology, being largely surgical, there is but little room for the discussion of "*potencies*," and we, therefore, meet with but very few of them. "*Similia similibus curantur*" does not seem to apply in cases of rupture of the uterus, or vesico-vaginal fistula, and our author, therefore, is found treating them as any physician would. The illustrations of lesions and cuts of instruments and whatever may need aids to their description are similar to what are seen in all works of the kind.

In the treatment of ovarian tumors the author has quite a predilection for iodine injections. He says: "*Iodine injections have cured ninety-three per cent. of well-selected cases, and about sixty-three per cent. of cases taken at random, polycysts included.*" Harm seems to have resulted in but six instances, though I have collected 311 cases operated upon by different gynecologists in this country, Germany, France and England." The strength of the iodine solution is $\mathfrak{D}\text{j}$ to $\mathfrak{J}\text{j}$ of water, using $\mathfrak{J}\text{j}$ of potass. iodide. The quantity used at a time should not be less than eight ounces after tapping."

We are somewhat surprised to find no mention made of the great success of Dr. Thomas Keith, of Scotland, in the operation of ovariectomy for ovarian tumors. His recoveries have been *ninety-seven* per cent. since March, 1877—seventy-three of them in succession without a single death. He assigns as one of the important reasons of his success in the great care to remove every drop of blood from the abdominal cavity, and ligating the most minute vessels to prevent subsequent hemorrhage—even embracing considerable of the surrounding tissue if there should be a number of bleeding-points near together.

The work would be very creditable to the author if, in writing it, he had accepted the broad principle throughout, and not in his surgical treatment alone, that there is no school in medicine, but that experience and observation, aided by the science of chemistry and others collateral, furnish all knowledge of the treatment of disease; that it is the merest charlatanism in endeavoring to make the public believe that there are schools in medicine differing in their merits, since every physician has the right to employ whatever course of treatment his judgment approves.

EDITORIAL.

PARTIES who advertise will consult their interests by advertising in a well-established journal—not one just commenced, nor one that has lived out its day of usefulness and is kept alive by occasionally buying up the subscription list of a defunct contemporary. It is better to pay a reasonable sum for space in a journal of large *bona fide* circulation than a very small sum in a journal of scarcely any circulation.

THE MEDICAL NEWS is the cheapest medical journal to advertise in of any medical journal in the West—not because it charges less per page, but because it has the largest circulation. Those who advertise in it usually continue their advertisements so long as they continue to advertise in any journal. In looking over the advertising form it will be observed that not a few of the advertisements have been appearing for years.

We hereby append the post-office law in regard to periodical publications. By noticing it, and keeping it in mind, hard feelings would sometimes be avoided:

UNITED STATES POSTAL LAW.—1. A postmaster is required to give notice *by letter* (re turning a paper does not answer the law) when a subscriber does not take his paper out of the office, and state the reasons for its not being taken. Any neglect to do so makes the postmaster *responsible* to the publishers for payment.

2. Any person who takes a paper from the post-office, whether directed to his name or another, or whether he has subscribed or not, is responsible for the pay.

3. If a person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it until the payment is made, and collect the whole amount, *whether it be taken from the office or not*. There can be no legal discontinuance until the payment is made.

4. If the subscriber orders his paper to be stopped at a certain time, and the publisher continues to send, the subscriber is bound to pay for it *if he takes it out of the post-office*. The law proceeds upon the fact that a man must pay for what he uses.

5. The courts have decided that refusing to take a newspaper and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

THE CINCINNATI EXPOSITION.—The eighth annual Industrial Exposition of Cincinnati has excelled all previous ones. To describe it in detail would require many pages. Every intelligent person, whatever may be his profession, who visits it is able to find many things to interest and instruct. In the way of manufacturing all departments are interested—the machinery room is filled with every sort of machinery—among them, not the least interesting, is one for generating the electricity with which the immense building or series of buildings is illuminated; and illuminated by a light similar to that of sunlight, in which the light of a gas jet is not noticed. In another department of the machinery department a Boston company exhibits a complicated electrical apparatus to illustrate signaling danger of any kind on railroads. A misplaced switch or broken rail is automatically signaled to an approaching train, so that it may be on its guard and avoid danger. Besides this, several electrical companies make

exhibits of telephones, telegraphic apparatus, electrical bells, clocks which run by electricity and need no winding, etc. It is seen how useful electricity has become; and that it is being utilized more and more every day. It will soon illuminate our streets and dwellings, run the sewing-machines by simple apparatus, ring the bells of the house. It is already employed extensively for the latter purpose.

The druggists have occupied no little space in exhibiting their sugar-coated pills, fluid extracts, essential tinctures, extracts of malt, etc. There are a few microscopes shown, but not many; and a few surgical instruments. There is, however, a pretty full exhibit of artificial limbs. Those of a Cincinnati firm are quite extensive and interesting. So great is the perfection in these appliances becoming that it almost seems that after while it will not be regarded a very great misfortune for a man to lose a limb.

On the third floor the "Natural History Society of Cincinnati" fills an immense room with specimens from its museum. This display alone is well worth a scientific man's coming many miles to visit. To enumerate the articles of great interest to be seen here would fill many pages, so that we will only make this allusion to it.

To give anything like a fair description of the art museum, filled with many elegant paintings, ancient and modern engravings, marble busts, castings, etc., would be quite impossible. It would require a book; and yet all these things are interesting to all persons of intelligence and culture. The exhibition of cut flowers exceeded anything of the kind we saw at the great Centennial.

In another number we propose to describe somewhat in detail some of the articles on exhibition especially interesting to physicians. At this time we have only space to allude briefly to the great exhibition as a whole. Very many of our professional brethren from abroad have been visiting the Exposition, and we are indebted to many for calling upon us. We hope to see many more. We are always glad to be called upon by our friends from abroad when they happen to be visiting the Queen City of the West.

CORRESPONDENCE.—A friend informs us that the letter printed in the September issue of the *MEDICAL NEWS*, en-

titled "What a Student Thinks of the Lectures," appeared in some other medium several years ago. We know that it was never published in the *News* before. We presume some medical student thought it expressed his views better than he could express them himself, and, consequently, *adopted it as his own*, as we have heard of some distinguished medical writers doing with other doctors' effusions, and sent it to us. It does not, however, precisely describe the present staff of the hospital as it is. For instance, "the escaped clergyman" is no longer a member, and some other changes have been made in the staff. Our pages are open to criticism, but we will be obliged to gentlemen to write out themselves what they may have to say, and *not adopt old letters* as their own, even though they may express, in the main, their sentiments.

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MR. GUSTAVE E. STECHERT.—Knowing that physicians frequently desire to import a work that can not be had in this country, to subscribe for some journal or magazine, and sometimes to hunt up a work for them out of print in London, Paris, or Berlin, we mention the name at the head of this article. Mr. Stechert can be addressed at 766 Broadway, New York. He is a general agent in this country for all German, French and English publications. He takes subscriptions, at the very lowest terms, for all foreign medical journals, as well as those devoted to general literature, and will import any work required. He keeps on hand a large stock of foreign standard works on theology, philosophy, philology (ancient and modern), medicine, physiology, pathology, natural sciences, chemistry, physics, mining and metallurgy, civil and military engineering. He receives shipments weekly from England, and semi-weekly from France and Germany. He keeps on hand all the works extant of the ancient Greek and Latin authors—as the complete works of Cicero, Livy, Pliny, Aristotle, Homer, Herodotus, etc., published by Tauchnitz & Teubner, of Leipsic. These can be had in cheap volumes, bound in paper, for the purpose of rebinding.

Catalogues of books of all kinds can be had by addressing him. And, as mentioned, he gives special attention to the procuring of old, rare books, and of complete sets of periodicals. It would be well to note the address for future reference.

LACTOPEPTINE.—We have no hesitation in calling attention to this excellent adjuvant in the treatment of the gastro-intestinal troubles, that are prostrating so large a number of the infant population, and hastening many of them to their early graves, during the present hot weather, in our cities and towns. Experience with this article, during the “heated term,” in the treatment of the so-called “summer complaints” of infants and children, enables us to speak of it in high terms of commendation, and as the most valuable auxiliary to the remedies we have prescribed for this class of sufferers at any time.

A sample of Lactopeptine was sent us from New York, by the company engaged in its manufacture, early in the season, but it was some time before we began its use in practice; and it is but simple justice to say, it has more than realized *all* we hoped for or expected from its use thus far.—*Ed. of Exchange.*

MALTINE.—We have recently noticed, in our exchanges, many commendations of Maltine. It has come to be used so extensively that the manufacturers inform us they can scarcely supply the demand. A preparation so popular must certainly have very great merits. A recent number of *Braithwaite's Quarterly Epitome* contained a long article on Maltine by a St. Louis physician, recommending it in high terms in many affections, citing many cases in evidence. We hope that none of our subscribers will fail to give it a trial.

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ORIGINAL CONTRIBUTIONS.

A Contribution to the Clinical Study of Exophthalmic Goitre.

BY WILLIAM PEPPER, A.M., M.D.,

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Read before the State Medical Society of Pennsylvania.

MANY names have been applied to the peculiar condition of disease characterized by rapid action of the heart, protrusion of the eyeballs and enlargement of the thyroid gland. Most of them are open to the objection of not indicating definitely either the principal symptoms, or the essential character of the affection. It is on this account that I much prefer the name "Exophthalmic Goitre" to either that of Graves' disease, or of Basedow's disease, by one or the other of which it is most commonly described.

Exophthalmic goitre is not a distinct and specific disease in the sense that typhoid fever and acute croupous pneumonia are, but still it has a perfectly well-established claim to its place in our nosology. It is true that in well-marked cases there are certain features which are dependent on the anæmia which is so frequently present, and others which are due to the general neurasthenia that is usually attendant. But apart from these, there is the clearly defined group of symptoms first mentioned, which are so peculiar and so constantly associated in this disease as to clearly establish its separate identity, and to show that it is connected with some special morbid condition. A good idea of the cause of exophthalmic goitre in its

aggravated form may be gathered from the following history:

CASE I.—R. T., a tall, spare woman of nervous temperament, when about twenty-seven years of age, suffered a severe disappointment in a love affair. Soon afterward she began to present symptoms of impaired nutrition, loss of color, emaciation, debility, etc. She became much more highly nervous and excitable. At the same time the action of the heart became rapid and excited, and the thyroid gland enlarged. There was a marked irregularity of menstruation. There was a marked anæmic bellows murmur over the base of the heart. The carotid arteries pulsated violently, and were the seat of a strong thrill and aneurismal bruit. There was also pulsation of the thyroid gland, with thrill and murmur. Under the use of iron, digitalis and tonics, she improved so much that she discontinued treatment. Before long she suffered from a return of all the above symptoms in an aggravated form, and, in addition, there was prominence of the eyeballs; but again she found relief, and during the next five years she had several similar relapses, though each time the symptoms were more advanced. The degree of enlargement of the thyroid varied considerably, being extremely marked at times. Both lobes were equally affected.

The prominence of the eyeballs also varied much from time to time; during several of the attacks, being so extreme that the eyelids would not close over them. On several occasions there was slight conjunctivitis, always easily relieved. The attacks were always marked by a great increase in her debility and nervous excitability. The heart's action never regained its normal state, but continued rapid and easily excited by slight causes. At times the pulse was exceedingly rapid, 130 to 150 in the minute. After several such attacks her general health became permanently impaired. The bellows murmur became harsher in character. The area of cardiac dullness increased, and the sounds of the heart became sharp and weak, indicating the development of dilatation with slight mitral insufficiency. Edema of the feet and other evidences of impaired circulation now appeared. In the spring of 1864, she again came under my observation, and in far worse condition than at any previous time. She had been suffering greatly for some time, and had for

several years used stimulants freely. The heart's action was very rapid and feeble, and there was violent pulsation in the cervical vessels. The thyroid gland had diminished somewhat in size, but was hard and inelastic. The eyeballs still protruded greatly; there was no inflammation of the cornea or conjunctiva. There were œdema and ascites, and a few days later jaundice appeared and was soon followed by death.

It may be observed, in the first place, that in the above case the subject was a woman, and experience shows that exophthalmic goitre occurs more frequently in the female sex. Of thirty-eight fully developed and undoubted cases of which I have preserved more or less full notes, thirty-one occurred in females, and seven in males; and the same preponderance of females obtained in over thirty more or less typical cases which I have not used in the preparation of this sketch. The disease is more frequent in early adult life, but it has been met with at all ages. The earliest period at which I have met with a fully developed case was at ten years, and on the other hand I have seen several instances of it at the age of fifty five, sixty, and even later. * * *

Exophthalmic goitre may exist in its most intense degree without any organic changes in the heart. It is indeed true, that when the disease has been long continued, evidences of serious impairment of the heart's function often appear; but these are usually to be explained by degeneration of the walls of the heart, with dilatation of its cavities consequent upon prolonged anæmia and malnutrition. Again, while it is further true that exophthalmic goitre sometimes appears in patients who are subject to organic disease of the heart, there is always in such cases an additional element of morbid vascular action, while innumerable cases of organic heart disease of all types occur without the presence of the characteristic symptoms of exophthalmic goitre. Since, then, organic heart disease is either an accidental coincidence or a late complication, it is evident that the intense functional disturbance of the heart, which is so constant and so early a symptom, must be due to some morbid condition of the ganglia and plexuses of nerves controlling its action.

The only satisfactory explanation of the remarkable symptoms connected with the cervical vessels and thyroid gland and the eyeballs, is to be found likewise in a mor-

bid state of the vaso-motor nerves controlling the carotid trunks and their branches. The thyroid arteries are greatly dilated, and the enlargement of the gland which takes place is found to depend anatomically upon extreme dilatation of the vessels of its substance, together with infiltration with serum and some hyperplasia of the gland tissue. In like manner the protrusion of the eyeballs, about which so many theories have been advanced, is now recognized as being due to swelling of the post-ocular intraorbital fat, from hyperæmia with œdema and sometimes with hyperplasia.

The frequency with which cases of the most aggravated type recover entirely is destructive to the view that actual organic lesions of the nervous ganglia are necessarily or even frequently present.

Finally all analogies with other parts of the nervous system would favor the view that a state of reduced and exhausted activity of these ganglia might fully account for the striking symptoms produced. I believe myself that in the great majority of cases the condition is of this latter kind; and while in some instances exophthalmic goitre is due to organic disease of the nervous system, it is more frequently only a modality of neurasthenia; that is to say, a state of exhaustion of nervous power with irritability, specially localized upon the cardio-carotidean tract. We are familiar with other instances where such a morbid condition of nervous system affects special localities, but in none is the localization more definite or the symptoms more characteristic than in the affection we are considering.

In returning to examine more at length the causes of exophthalmic goitre, we will be struck with the fact that they seem to be exclusively such as are apt to produce depression and exhaustion of the nervous system, if not actually organic disease. In most instances there will further be found a previous state of nervous susceptibility and weakness, constituting the familiar nervous temperament which must be regarded as a predisposing cause. Not rarely the exciting cause will be found to be some sudden and severe shock to the emotional nervous system. Thus I have known in several instances the initial symptoms to date from a sudden and severe fright; from disappointed affections; from severe and wearing anxiety in connection with marriage; from protracted

strain in supporting severe reverses of fortune, etc., etc.

CASE II. *Chronic Intestinal Catarrh; Extreme Nervous Disturbances; Anæmia; Exophthalmic Goitre with rapid Action of Heart; Rapid Loss and Gain of Flesh; Recovery.*—Miss A., aged twenty, although generally healthy, had always been nervous. She had always been used to eating unwholesome food, candy, cake, sugar, with quantities of tea and coffee, and insufficient food of plain nourishing character. In the summer of 1876 she attended camp-meeting, was subjected to great nervous excitement, and was much exposed at same time. Severe diarrhea resulted and was not checked. No attention was paid to diet or to avoidance of exposure. The stools were frequent; twelve to twenty on some days, thin, whitish and fetid. This condition became chronic. Soon afterward, in September, 1876, she noticed palpitation of the heart, with dyspnœa, and enlargement of the thyroid gland. She grew weak, and lost flesh rapidly. She became extremely nervous, and very lachrymose, so that she wept on the slightest cause. Her temper was not particularly changed, except that she became more petulant. Frequently, an ordinary remark quietly addressed to her would cause a burst of tears. By Christmas, 1876, exophthalmos began, and rapidly increased until her eyes were very prominent. She continued in about this same condition, despite medical treatment, until October 20, 1877, when I first saw her. The diarrhea had persisted with the same character of stools. Menstruation had ceased five months previously. She had lost much flesh, her weight being scarcely ninety pounds, whereas fourteen months previously it had been one hundred and forty pounds. Her appearance was shocking on account of the extreme exophthalmos and the very large goitre. She was unable to close the eyelids. The action of the heart was constantly rapid, and frequently it rose as high as 175 to 185. There was a soft anæmic cardiac murmur over the base. The thyroid gland pulsated very strongly, and was the seat of a strong diffused thrill, and of a loud, shrill murmur. When the stethoscope was applied over the temporal fossa, to the anterior part of the parietal bone on either side, a distinct high-pitched murmur was audible.

She was immediately placed on the use of skimmed milk (of which she soon drank two quarts daily) with stale

bread, and two soft-boiled eggs daily. Nitrate of silver with opium in pill form were given, and fifteen drops of tincture of digitalis thrice daily. The diarrhea was soon controlled, after which dialyzed iron was substituted for the silver and opium, and bromide of potassium gr. viij was given in combination with the digitalis. All of her symptoms improved rapidly, and she gained flesh quickly. She soon wearied of the restricted diet, and about the middle of December she stopped all treatment, and returned to the use of a mixed diet. Diarrhea soon returned and she rapidly lost the flesh she had gained; and all of her symptoms, the cardiac excitement, goitre and proptosis, again increased. On February 7, 1878, I saw her again and directed a return to a similar diet, and to the use of silver and opium for a time, to be followed later by digitalis and dialyzed iron. The diarrhea was again checked readily, and rapid improvement commenced immediately and continued without any interruption. The dialyzed iron was increased gradually from ten to forty drops, and its effects were definite and gratifying. If suspended for even two or three days she asserted that she missed its tonic influence. Her gain in weight was as follows: From February 7 to March 19 (forty days), from one hundred to one hundred and twenty-five lbs.; from March 19 to June 20 (ninety-three days), from one hundred and twenty-five to one hundred and forty-two (seventeen lbs.). She seemed to make blood and flesh so rapidly that, at that time, the dose of dialyzed iron was lessened to ten drops. She increased to one hundred and fifty pounds in the course of six weeks, having gained sixty pounds in all within a period of nine months. There was a correspondingly rapid improvement in the nervous symptoms. She ceased to be lachrymose, and lost to a great extent the morbidly excitable, impressionable character she had before presented. Her color became healthy. The prominence of the eyes disappeared almost entirely by June 20, 1878, and when I last saw her, December 14, 1878, it had not returned. The enlargement of the thyroid gland had also gone. By June, no hæmic murmur could any longer be heard over heart; neck or temple; and all pulsation, thrill and murmur had gone from the region of the thyroid gland. Menstruation returned in May, 1878, after an absence of fifteen months, and subsequently continued regularly. The pulse still continued

somewhat too rapid, and was readily accelerated by effort or excitement. Up to December, 1878, she still continued a diet chiefly of milk and farinacea, with but little meat, and no tea or coffee.

CASE III. *Chronic Intestinal Catarrh; Anæmia; Exophthalmic Goitre; Rapid Action of Heart; Repeated Epistaxis; Rapid and Extreme Emaciation; Recovery.*—Mrs. ——— was sent to me in August, 1878, by Dr. Birnie, of Maryland. She was about twenty-two or twenty-three years old, and had recently been married. From 1870 to 1873 she resided in an unhealthy locality, and there began to have occasional spells of feverishness which soon became accompanied by diarrhea. These attacks would usually last three or four days at a time. There does not seem to have been any fully developed malaria. After returning to her home, which was in a healthy mountainous district, she continued to have occasional spells of diarrhea with feverishness. She did not, however, lose much flesh or strength. In the spring of 1876, enlargement of the thyroid gland and prominence of the eyeballs was first noticed. At that time she weighed one hundred and four pounds. In June, 1877, a severe attack of diarrhea began and continued until the following October. During this time she rapidly lost weight until she reached sixty-eight pounds. The enlargement of the thyroid gland and the exophthalmos also increased rapidly and attained proportions as great as at any subsequent period. After the cessation of the diarrhea in October, 1877, she began to gain weight, and during the ensuing winter reached one hundred and eight pounds. There was, however, no improvement in the condition of the eyeballs or of the thyroid gland. She continued weak also, and with marked excitement of heart's action.

Diarrhea returned in June, 1878, but for some time previously she had been losing in strength and probably in flesh. By the time I first saw her in August she weighed less than seventy pounds. The character of the discharges in all the attacks of diarrhea was similar; thin and watery, with particles of undigested food, but without either blood or pseudo-membrane. There has been very frequent complaint of pain at the lower part of the abdomen. In addition to the above symptoms, there have been for several years quite frequent and copious hemorrhages from the nose. Menstruation has always been

scanty and irregular, and lately has been absent entirely for a number of months; it occurred twice in 1877, and three times in 1878. During the summer of 1878, œdema of the ankles frequently appeared toward evening.

On examination in August, 1878, her condition appeared very alarming. She was extremely emaciated and feeble. The immense protrusion of the eyeballs, and the enormous enlargement of the thyroid gland, gave her a shocking appearance. She was unable to cover the corneæ, but no inflammation had occurred. Emaciation was extreme; her weight did not reach seventy pounds, and the skin and mucous membranes were bloodless and slightly sallow. The tongue was tremulous, red and smooth. Appetite was capricious and somewhat abnormal. The bowels were moved frequently, from four to eight times in twenty-four hours, the character as above given. Respirations were frequent and increased markedly by the slightest exertion. The pulse was very small, weak and frequent; in the sitting posture, it averaged 140. Exertion brought on severe palpitation. The heart sounds were sharp and feeble, with strong hæmic murmurs at the base, and along the pulmonary artery. The carotids throbbed excessively, and the thyroid was the seat of strong diffused pulsation and thrill, with loud humming murmur on auscultation. No venous hum could be heard on ausculting the temples. There had been frequent epistaxis of late. The feet and ankles were œdematous. The urine was pale, of low sp. gr. 1009-1010, but contained no albumen.

She had already used iron, tonics, bismuth and ergot. I now directed her to use an exclusive diet of milk and arrowroot, to have absolute rest, and to take a pill of nitrate of silver, gr. 1-5, with powdered opium gr. 1-4 thrice daily. She went directly to the sea-shore, but the climate did not suit her; and although she had gained somewhat when I next saw her in September, the diarrhea and attacks of epistaxis continued. She was then directed to remain in bed for several weeks, the diet was restricted to light broths, milk and water, and arrowroot, and pills of sugar of lead and opium were given. The diarrhea was soon checked; she was thoroughly anointed daily with oil, and her diet was cautiously enlarged. In consequence of febrile symptoms with a tendency to night sweats, she took for a time six grains of quinia sul-

phate daily in divided doses. On September 25th, there was such marked improvement that she returned home to Baltimore, and resumed the use of nitrate of silver and opium, as the stools, although solid, were too frequent. Dialyzed iron was also given, at first in doses of eight drops three times a day. The nitrate of silver was continued for more than two months, with occasional short interruptions. The iron was increased to thirty drops three times a day, and was continued until May 1, 1879. The diet was rigidly restricted for several months, and then cautiously enlarged.

Improvement was steady and rapid. Menstruation became regular in March, 1879. By February her weight had gone up to one hundred and two. The prominence of the eyeballs had almost disappeared, and there was marked decrease in the enlargement of the thyroid. The heart's action was still too rapid and readily accelerated. Epistaxis became very rare. Since then, until the present time, May, 1879, the improvement has continued.

It will be seen from the above cases, and from what has been said, that anæmia is a very frequent attendant on this disease. The fact has long been recognized that, in all conditions of neurasthenia, anæmia, both general and of the nervous centers, is a most important factor. This certainly holds true in regard to exophthalmic goitre. In many cases a well-marked state of anæmia is produced before the characteristic symptoms appear, and it may be safely regarded as a powerful predisposing cause. When the anæmia has become marked, and a state of general susceptibility and weakness has been developed, it needs only some special circumstance or some special pre-existing vulnerability to localize the morbid action upon the ganglia and nerves involved in exophthalmic goitre, in order that the symptoms of this affection may be induced. In some cases, pronounced anæmia does not precede, but follows the characteristic symptoms, but it is then also due to the continued operation of the depressing causes. It may be concluded that anæmia is one of the most constant conditions in exophthalmic goitre, though among my notes of thirty-eight cases, I find twelve in which no positive anæmia existed. There does not seem to be any organic lesion of the blood-making tissues, such as the spleen, lymphatic glands, or marrow of bones. In those cases where I have examined the

blood, there has been no increase in the number of white corpuscles, but merely a marked decrease in the red globules; though I believe the accurate enumeration of the blood corpuscles in this disease is still a desideratum.

The disturbance of the heart's action is the most constant, and is usually the first to appear. The pulse becomes unaccountably rapid. Sometimes the patient is scarcely conscious of this, while in others there is a sense of præcordial distress, with at times severe spells of palpitation and tumultuous action. I have occasionally known the pulse to have continued rapid, presenting unusual resistance to the controlling influence of digitalis and other remedies, for a long period before the other symptoms ensued. The pulse rate usually rises to 120 and over, and in severe cases I have known it 150, 160, and even 180, and this for considerable periods of time together. The heart's sounds are usually sharp and clear, and later are apt to become feeble, even if valvular disease is absent; and a murmur or murmurs will usually be heard at some period of the case. These are generally soft and blowing in character, systolic in time, and located over the base of the heart, extending along the great vessels. In some cases they may be due to irregular muscular action, but undoubtedly are for the most part anæmic in character. It is perhaps due to the impaired nutrition usually attending, that such intense and prolonged excitement of the heart's action does not more frequently become associated with hypertrophy. But the symptoms may persist for a considerable time without such a result; and usually it is only when advanced malnutrition and anæmia have gravely impaired the tenacity of the heart's muscle that passive dilatation occurs. In connection with the anæmic murmurs referred to over the heart, I would call attention to the unusual points at which such murmurs may be heard in these cases. Russell speaks of strong bruits over the cervical vertebræ. I have heard them there myself, and in Case II. have described the loud murmurs which were audible over the temporal fossæ, as well as over the vertex. The murmur which is frequently heard over the thyroid gland is diffused and prolonged, but may be quite high pitched and shrill.

The enlargement of the thyroid, the second of the characteristic symptoms of this disease, is also very constant. It appears early and usually attains considerable magni-

tude in marked cases. I have more frequently observed both the lobes to be equally enlarged, though in some cases the enlargement is not symmetrical. It will be noted that the enlargement of the thyroid gland varies remarkably from time to time. In females it is not unusual for it to increase at or before the menstrual period. At such times I have known sudden and abrupt increase in the enlargement to occur in a single hour, even causing great distress to the patient. As a rule, a sense of fullness and weight is all that is complained of, but at times there may be an occasional feeling of oppression with some difficulty in deglutition. In but one case have I known pain in the thyroid to be complained of. The enlarged gland pulsates distinctly, and when grasped by the hand, we find that this is attended with distinct distension of its substance. In addition to the pulsation, there are also a marked thrill and a distinct murmur. The thyroid enlargement varies with the intensity of the general symptoms. At different periods of the same case, it may vary from a slight degree to a swelling so enormous as to cause great deformity. As the symptoms subside and the case approaches a favorable conclusion, it diminishes and even disappears entirely. The gland is at first painless, elastic and soft, though at times it may be extremely tense.

The protrusion of the eyeballs is one of the most important symptoms, especially in a diagnostic point of view. The increased action of the heart and the thyroid enlargement usually become marked before the exophthalmos reaches a high degree, but Von Graefe pointed out the fact that if a patient, even in the early stages, be requested to look downward, the upper eyelid will be seen not to follow perfectly the ball, so that a segment of the cornea and a part of the sclera will remain visible. This test may be safely applied in suspected or doubtful cases in the early stages. I have already mentioned the anatomical changes (hyperæmia, œdema, and sometimes hyperplasia of the intraorbital fat) which produce the protrusion of the eyeballs. In severe cases this protrusion becomes so marked that the patient is unable to close the lids. Inflammation of the conjunctiva is by no means common, considering the long continuance of such exposure of the globe of the eye. I have seen several mild attacks of this trouble, and there are cases on record

in which serious inflammation with ulceration of the cornea has occurred. The vision is not impaired. It will be very frequently (14 in 27 cases) observed that the pupils are dilated, though they still respond to light. When the protrusion of the eyeballs reaches an intense degree, so that the sclerotic, with its enlarged vessels, is widely exposed; and when the enormous enlargement of the thyroid, with the fullness and violent pulsation of cervical vessels, causes extreme disfigurement of the neck; while the anæmic and emaciated appearance of the patient brings into bolder relief these conditions, the physiognomy of this disease is one of the most striking and hideous that can be conceived.

There are a few other symptoms which require mention. Menstrual disorders are among the most frequent of these. It would also appear that they occasionally act as the cause of exophthalmic goitre, since it seems probable that the prolonged reflex irritation from a diseased uterus, acting upon a system predisposed, may serve as the exciting cause. More frequently by far, however, the uterine disturbances appear as symptoms and are dependent upon the anæmia and neurasthenia. In more than one-half of my cases, irregularity or absence of menstruation occurred, and this was especially marked in the cases I have here cited. As long as menstruation continues, the enlargement of the thyroid and the exophthalmos may sometimes be noted to increase as each period approaches, and to again subside after the menstrual flow begins. So, too, when amenorrhœa has existed for some time, I have noted a marked reduction in the size of the thyroid to attend the reappearance of the menses.

The *nervous symptoms* play an important part in the course of this disease. Those which are most marked are the extreme mobility and susceptibility of the nervous system. The patients become extremely irritable and frequently capricious or perverse: sometimes, as in Case II., they are excessively and ludicrously lachrymose, or they present fits of hysterical excitement, alternating with brooding depression of spirits. These conditions are always aggravated by fatigue or excitement. Vertigo and pains in the head are both occasionally complained of; the former was a marked symptom in no less than nineteen out of thirty-eight cases. Allusion has already been made to the subjective sounds, which are similar to

those experienced by other anæmic patients, and are frequently observed in this disease. In some cases, excessive sensations of heat of the surface of the body are complained of, so that the patient can with difficulty bear even light clothing by day or by night. Another symptom, which may be referred to the influence of the vasomotor nervous system, is the occurrence of profuse and sometimes irregularly distributed sweating of the surface, with or without flushing.

It seems to me that uterine disease of certain sorts probably occupies a similar relation in some cases.

Among the most interesting and remarkable symptoms connected with the processes of nutrition and assimilation, is the rapid variation in weight presented by some patients with this affection, when accompanied with chronic gastro-intestinal catarrh. Russell (*Medical Times and Gazette*, September 2, 1876, p. 251) alludes briefly to this peculiarity; but it is better illustrated by my Cases II. and III., to which the reader is referred.

The hemorrhages and dropsies, which are of frequent occurrence, are usually due to a watery state of the blood. Epistaxis is the most frequent form of hemorrhage; in Case III. it was of such rapid recurrence and large extent as to constitute a source of danger. Œdema of the feet is the usual form in which dropsy appears, here as in other anæmic states. It is only when the power of the heart has failed from fatty degeneration or dilatation, and when the alterations of the blood have become very marked, that general anasarca or internal serous effusions are observed. The urine very rarely contains albumen.

The prognosis is, as a rule, favorable, unless dilatation of the heart with or without degeneration of its muscle, has supervened. In the latter case, the existence of marked dyspnœa, of pulmonary congestion, of general venous stasis, or of extensive dropsical effusions, would be apt to usher in the fatal stage. Repeated hemorrhages, extreme anæmia, rapid loss of flesh, intractable diarrhea, or jaundice, are also grave symptoms as indicating extreme depravation of blood and interference with important functions, but still they are by no means necessarily of fatal omen, and the cases here given may serve as illustrations of the extent to which they may be present and yet a favorable result be secured.

The prognosis must, however, be very guarded as to the probable duration of the symptoms. Under any curative treatment, the affection is apt to be prolonged for many months; and it is only when we can succeed in detecting and removing all predisposing or exciting causes that may aid in maintaining it, and in placing the patient under the most favorable hygienic conditions, that a more rapid cure can be effected. Even after the subsidence of the exophthalmos and of the thyroid swelling, and when the general symptoms are greatly improved, the rapid action of the heart, with tendency to attacks of palpitation on small provocation, is apt to continue for an indefinite time.

Treatment.—There are, indeed, certain remedies which would appear to be almost always indicated, because the conditions they are designed to remove are constantly present. Among these is digitalis, which is the most appropriate and useful remedy for the disturbance of cardiac action observed in this affection. This drug may, therefore, be used with advantage in most cases; but there are a few points of caution that may merit mention. Occasionally digitalis disagrees positively with the stomach, whether given in pill, tincture or infusion; and, by the increased gastric irritation produced, really aids in maintaining sympathetic palpitation of the heart. This remark applies to the treatment of exophthalmic goitre as well as of all forms of palpitation. Digitalin will occasionally do better than digitalis in such cases; but bromide of potassium with belladonna, or with small doses of aconite, will perhaps act more favorably.

Ergot has been recommended in the treatment of exophthalmic goitre on account of its power of causing contraction of involuntary muscular fiber, and thus of favoring reduction of the caliber of the dilated vessels. In a number of cases in which it was given, I have certainly seen a favorable change occur in the symptoms; though, as the ergot was not the only remedial agent employed, I can not say how much of such result was due to its action. It is open to the objection of being apt to lessen appetite and disorder the stomach if long continued.

If digestive derangements exist, all other treatment must be suspended until they are rectified. A careful restricted diet—if necessary, limited to milk, buttermilk,

soups, broths and light farinacea—must be insisted on in such cases, especially if chronic intestinal catarrh with diarrhea exists. If evidences exist of congestion of the liver, an occasional gentle mercurial, followed by a mild saline laxative, may be called for.

It, conjoined with weakness of digestion, there exists general nervous debility, and marked over-action of the heart, I should strongly advise almost complete rest in bed, associated with gentle massage, and mild and pleasant diversion of the mind. The neurasthenia, the anæmia, the increasing failure in heart power, call for prompt and thoroughgoing treatment; and, without the advantage of such a restorative basis of treatment as the above, remedies will produce but little good. In cases of less severity, attended with marked nervous symptoms, but with less debility, gentle traveling or change of scene will prove valuable.

Careful attention should be paid to the complete cure of any local irritation coexisting. Such irritation is chiefly liable to be found in connection with the gastro-intestinal or the uterine mucous membrane. In the latter case, suitable local or general treatment should be instituted. In the former, when a chronic catarrhal state of mucous membrane exists, I would recommend, in combination with careful diet, the use of nitrate of silver. I believe that this remedy, while exerting the very best local action, is at the same time a nervous tonic and antispasmodic of great value.

Vegetable tonics, especially quinia and strychnia, will be found of much benefit in many cases from time to time.

Galvanization of the cervical sympathetic has been recommended, apparently on theoretical grounds, and I am not aware of any reliable clinical evidence in its favor, though I should, *a priori*, expect it to be of service.

The enlargement of the thyroid gland requires no special attention or treatment. It fluctuates with the changes in the severity of the other symptoms, and subsides, finally, as they are permanently relieved. Those modes of treatment, especially the use of interstitial injections of iodine or of other substances, which are of so much value in true bronchocele, are not to be recommended in this disease.

When the protrusion of the eyeballs is extreme, a light bandage may have to be worn to prevent irritation of the conjunctivæ. Von Graefe even recommended that, in extreme and threatening cases, the opening of the eyelids might be diminished by a surgical operation.

SELECTIONS.

Dr. Tanner and the Effects of Starvation on the Blood.

BY W. H. ROUSE, M. D., P. C., DETROIT.

THERE are reports of many cases of prolonged fasting on record. Some of these have been endured from necessity, some from a morbid desire of notoriety, and others from religious convictions. The absolute length of time a person may live without food has not, and, possibly, never will be definitely determined, as other factors than food are important elements in the continuance of life. Prominent among these are the constitution and physical state of the individual. Persons without food, and with very little prospects of obtaining any, as in cases of shipwreck, would succumb much sooner than they would under a voluntary fast, which might be terminated at the pleasure of the individual. So, also, in certain states of the mind the functions of the body seem comparatively inactive, and waste is reduced to the minimum. A prolonged voluntary fast, such as Dr. Tanner has endured, is, therefore, not devoid of interest.

Dr. Tanner is an Englishman, forty-nine years of age, five feet six inches in height, and weighed, at the commencement of his forty days' fast, 157½ pounds. He has a bilious nervous temperament, and a rather genial disposition, but during his prolonged abstinence, exhibited, at times, as might have been expected, some irritability of temper.

During this fast Dr. Tanner took but moderate active exercise, but usually rode, morning and evening, in Central Park, about ten miles daily. Though not reading himself he caused the papers to be read to him.

For a number of days during the first part of the fast he drank nothing, but found it advisable to drink water

in small quantities, large draughts inducing nausea. Ab-lutions several times a day received careful attention.

The urine varied in Sp. Grav. from 1.004 to 1.030, and contained considerable quantities of phosphate of lime and of urea.

The bowels were constipated. On a previous occasion he went forty-seven days without alvine dejections. Regurgitation of bile was quite common, and nausea and flatulence rather troublesome—gas escaping both ways with marked relief.

At the close of the fast a portion of blood was taken from the doctor's hand and carefully examined microscopically by P. H. Vander Weyde, Professor of Microscopic Pathology in the Woman's Medical College of New York. The examination was made before the blood had time to evaporate, as it is well known that the red corpuscles become markedly changed in appearance, not only by chemical reagents, but also by loss of water.

The plasma and white globules exhibited no especial features worthy of note, but the red corpuscles were markedly changed from their usual appearance and relative proportions. The red corpuscles were small—about $\frac{1}{5000}$ of an inch instead of $\frac{1}{4000}$ to $\frac{1}{3000}$ of an inch in diameter as in normal human blood—and bore considerable resemblance to bodies seen in blood that has been evaporated. They were very irregular and shriveled, their rough appearance being caused by points projecting from their surface which looked like fungoid growths developed at the expense of the corpuscles. The smallest were most irregular, and some of these appeared to be disintegrating.

The relative proportion of red and white corpuscles was also changed. In normal blood the proportion varies considerably, but is usually between 200 and 400 red to one of white. In Dr. Tanner's blood the white was estimated at one to 100 of the red.

From these observations it would appear that the red corpuscles of Dr. Tanner's blood were rapidly disintegrating, whether from the fungoid spores or not, and must soon end in the death of the individual. The biliousness of the doctor toward the close of the fast is corroborative of this view.

In twenty-four hours after the fast Dr. Tanner's blood

contained many red corpuscles of normal appearance, and the doctor himself exhibited remarkable recuperative powers.

Hydatids of Right Lung ; Obstinate Dry Cough ; Formation of White Fibrinous Clot in Heart ; Death.

J. M. S——, a Swede, male, aged fifty-three, a gold miner, was admitted December 4, 1878. On admission he complained chiefly of internal hemorrhoids, which bled a good deal. He was a fair-complexioned man, of highly nervous temperament, had led a solitary life, being what is called among miners a "halter;" that is, working by himself. He had been very unfortunate, and was very silent and reserved. He complained of a troublesome cough. An examination of the chest was carefully made, and repeated daily after admission for some time. Nothing could be detected except a small patch, somewhat dull, situated posteriorly on the right side, just below the spine of the scapula. The patch was of an oval shape, and not larger than the longitudinal section of a walnut. Breathing was coarser over this spot, and local resonance was slightly increased. The uvula was elongated, and as it was thought that this might have something to do with the cough, a gargle of capsicum and tannin was ordered, together with some compound tincture of camphor and sulphuric acid.

On December 9, the cough being still troublesome, a small blister was applied to the right side. On the 12th the cough was still troublesome. Sputa very slight, but just tinged with blood. Ordered four ounces of wine daily, twenty minims of tincture of belladonna thrice daily, and to continue the gargle. On the 16th the cough was as bad as ever, and disturbed the other patients. There was no change in the lung. It was found that when his attention was drawn off the cough ceased for a time. On December 22, the dullness had extended greatly; there was no notable hæmoptysis, but the sputa were white, and occasionally tinged. On the 28th considerable hæmoptysis occurred, and the dullness was rapidly increasing. From this time until his death various remedies were tried to allay the cough, but all of them afforded only temporary relief. He had porter, milk, cod-liver oil,

and good meat diet, but still he continued to grow weaker and thinner. On January 20, the breath had an extremely offensive odor, suggesting gangrene of the lung. The right chest measured one inch more than the left in line of nipples. There was considerable œdema in the right lumbar region; none in the left. On the 23d there was dullness with complete absence of respiratory murmur over the right chest posteriorly from the spine of scapula. The dullness was bounded by the posterior wall of axilla. Fœtor of breath persisted.

Though the man was obviously growing weaker, there was nothing to indicate any immediate danger, or to require any particular watchfulness at night. On the night of the 25th he was seen by the surgeon-superintendent as usual. On the morning of the 26th he was found sitting up in his usual posture, quite dead. One of the patients in an adjoining ward had heard him coughing until about one A. M., but no sound was made that led him to suspect anything extraordinary.

Necropsy.—A hydatid cyst was found occupying the lower half of the right lung. The walls of the cyst were, in part, gangrenous. The contents were a number of hydatids and foul-smelling pus, mixed with fluid. The liver was healthy. The right auricle and ventricle were filled up with white fibrinous clots. Nothing else noteworthy was observed.

Remarks.—Although the symptoms on admission were ambiguous, and the physical signs obscure, yet the persistency of the cough, coupled with the existence of a small but well-defined patch of dullness in the posterior part of the right lung, just below the spine of the scapula, suggested a hydatid tumor. For some time it was doubtful whether it might be that or a nodule of cancer, or, possibly, lobular pneumonia undergoing caseous degeneration, but the comparative rarity of either of these two diseases, and the frequency of hydatids, rendered the hypothesis of hydatid disease the more probable. In view of the increased dullness, the hæmoptysis, the fetid breath, without any of the physical signs of a cavity, or of pneumothorax, the diagnosis was rendered all but certain. Dr. Bakewell was about to aspirate the dull part of the chest, to remove the fluid, and had determined to do so on the very day the patient died. Fortunately the operation was not performed.

A third case of hydatids of the lung and liver was admitted in a moribund state, but as the friends would not allow a *post-mortem*, it is not worth while to record the symptoms.

The Blood in Febrile States.

M. HAYEM, who has added so much to our knowledge of various morbid states of the blood, has lately published some observations on the minute alterations in the mode of formation of the coagulum in various febrile states. When the blood is spread out in a thin layer under the microscope, the corpuscles are seen to assume a special arrangement. The irregular spaces which the rouleaux leave are larger and less numerous than under normal conditions. If, after coagulation, an attempt is made to separate the elements, it is found that the corpuscles are united by extremely fine filaments of fibrine, which cause them to assume very irregular shapes; they present, also, an abnormal viscosity when compressed by the surrounding fibrine. Other changes which the blood presents can not be, with certainty, ascribed to the inflammatory processes. Even when the pyrexia is high there is no alteration in the dimensions of the red corpuscles. The increase in the number of leucocytes affects equally all forms of pale corpuscles, their mutual proportion being about the same as in normal blood. Nor do these present any structural alterations; their amoeboid movements are the same as in health, except that they are somewhat interfered with by the filaments of fibrine which adhere to them. Many "hæmatoblasts" occupy the empty spaces, and, like the red corpuscles, they become more viscous and adherent one to another, and hence quickly form masses, notably larger than those seen in normal blood. Very soon a reticulum appears, considerably denser than in other circumstances, the constituent filaments being thicker and closer than those of normal blood. During this formation, the hæmatoblasts have fused together into little blocks of waxy aspect, to which large numbers of fibrils are attached, giving them a characteristic appearance of balls of spines. The excess of fibrine in the blood gives rise to another appearance if the blood is diluted with the liquid used in the ordinary numeration of the

corpuscles; minute solid particles become visible to the naked eye in the mixture, an appearance never seen with normal blood. These particles are composed of hæmato-blasts, surrounded by a finely granular or fibrillar substance, to which many leucocytes and red corpuscles adhere. These changes in the blood may be found, although in a less marked degree, in cases of chronic, as well as in acute, inflammation.—*Lancet*.

On the Curability of Acute Phthisis. (Galloping Consumption).

By the term acute phthisis, the author meant an acute pulmonary affection, accompanied by high and continuous fever, running a rapid course, and leading invariably to more or less destruction of lung-tissue, if the patient survived long enough. He recognized three varieties of the disease: 1. Acute pulmonary tuberculosis; 2. Acute pneumonic phthisis; 3. Acute pneumonic phthisis complicated secondarily with the development of gray miliary tubercles. He thought it impossible to distinguish the second from the third variety during life; but that the first might be suspected when the disease set in suddenly with high fever, great prostration, profuse perspiration, lividity and great acceleration of breathing, and when these symptoms were *out of all proportion to the results obtained from a physical examination of the chest*. Having given extracts from the writings of Walshe, Trousseau, and others, showing that the profession was very hopeless as to such cases, he pointed out that, in a good many cases, he had obtained excellent results from treatment, of which the following was an outline: 1. Careful skilled nursing, with constant feeding, and stimulants in small quantities often (from 4 ozs. to 10 ozs. daily); 2. Each night a subcutaneous injection of 1-100th to 1-60th of a grain of atropin; 3. Remedies specially adapted to the removal of fever: (*a*) ice-cloths to the abdomen; (*b*) quinine, 10 to 30 grains, in a single dose, once daily; (*c*) a pill, composed of one grain of quinine, half a grain of digitalis, and from a quarter to three-quarters of a grain of opium, every four hours. In addition to this, special symptoms—diarrhea, constipation and the like—must be treated on ordinary principles;

and, of course, the treatment indicated must not be used in a mere routine way, but adapted to the surroundings of each individual case. He concluded by referring to illustrative cases.

Dr. Totherick said that, like many others, he had tried Dr. Anderson's method as soon as it was published, having previously been accustomed to rely on large doses of the tincture of the perchloride of iron. In one remarkable case under his treatment, the febrile action was so marked that he had thought of transferring it to the fever-wards; but during the treatment there was a decided catarrhal sound at the back of the left lung, and eventually the base of the right lung broke up into a large cavity, with profuse expectoration. Although the case ran a very acute course, the disease was apparently arrested while under treatment by perchloride of iron. In another case, a young girl, fifteen years of age, was brought into hospital suffering from an intense fever, with temperature sometimes of 105° , without a symptom of lung disease or head disease. The case was diagnosed as one that might turn out to be acute miliary tuberculosis. Dr. Anderson's treatment was adopted. Sometimes the temperature went down, and sometimes up. The lungs were anxiously auscultated twice a day; occasionally there were slight symptoms of catarrh and slight headache, and once there was slight strabismus. The treatment went on for weeks, and then the patient left. She was now an out-patient; her temperature was often very high, as much as 103° in the morning, and yet she did not decrease in weight, although she was taking nothing but a little cod-liver oil. He could not say that the evidence was sufficient to show that the case was one of acute tuberculosis. Dr. Anderson's treatment was certainly not scientific; it must be considered as purely empirical—not that it ought to be objected to on that account if it were successful. In acute cases the atropin might be useful for night-sweats; but, as far as his experience went, there was no expectoration whatever, and not often any diarrhea. He had noticed some cases of diarrhea in which the opium was advantageous, but, generally speaking, there was not any expectoration. In fact, the patient often died before expectoration became developed. With regard to the temperature, he had always found that it could be controlled by the salicylate

of soda more successfully than by quinine and digitalis, unless the quinine were given in such large doses as to derange the system and destroy the appetite.

Dr. McCall Anderson, in reply, said that he did not contend that the treatment that he had suggested would prevent a subsequent attack. He had only spoken of the curability of an existing attack. To prevent other attacks, it would be desirable to resort to a sea-voyage, or some other means of improving the general health. He thought there was a great tendency on the part of many members of the profession to ignore too much the high temperature in cases of acute diseases, and that many patients were killed rather by the fever than by the disease which produced it. The case mentioned by Dr. Totherick might, perhaps, be one of those extraordinary cases of hysteria associated with high temperature that sometimes occurred. With regard to diarrhea, his experience was, that it was a common, though not invariable, symptom. In carrying out the opium treatment, constipation sometimes became very obstinate, so that it was necessary to diminish or suspend the opium for a day or two. He agreed that, in the majority of cases in acute phthisis, there was not much expectoration; in fact, no expectoration whatever. He could not agree that salicylate of soda would control the temperature. In cases of rheumatic fever, such remedies might be of the greatest use. Generally, when the pain was removed, the fever subsided. A remarkable case had occurred in the wards of his colleague Dr. Gairdner, in which rheumatic fever was treated by salicin, and the pains almost immediately subsided; but the temperature, instead of going down, went up; ice-cloths were then used in the way he had recommended, and almost immediately the temperature came down. The paper he had read was meant to be a protest against the very general opinion that acute phthisis was incurable, and that tubercle must necessarily prove fatal. Though it was a very dangerous complication, he believed it was not necessarily incurable.—*Dr. McCall Anderson, in British Medical Journal.*

On the Treatment of Bright's Disease, with Special Reference to the Use of Diuretics.

BY W. T. GAIRDNER, M. D., GLASGOW.

DR. GAIRDNER said that the present communication was to be viewed simply as an abstract, the historical and other details on which it was founded being about to be published in the Glasgow *Medical Journal* for September. Dr. Gairdner had been long of opinion, as the result of more than twenty-five years of hospital experience, that the English practice in Bright's disease, and especially in acute and sub-acute cases, had been too much founded on the conception that the kidney, like an inflamed organ, must have, as nearly as might be, entire physiological rest; and hence that diuretics were to be avoided, even at the risk of their requiring to be replaced by more perturbatory practice. Dr. Gairdner did not hold that diuretic treatment was alone sufficient, or even in all cases expedient; but he held that the mere abstinence from diuretic treatment, or the doctrine that such practice was to be regarded with suspicion in the cases in which the simpler saline diuretics could be brought to act, was opposed to the teaching of experience. In the London schools, in particular, the teaching adopted for many years was that the occurrence of active diuresis, under remedies especially adapted to that end, was to be avoided, and that it was better practice, in most cases, and especially in acute and sub-acute cases, to aim at purging the bowels continuously by the strongest and most irritating cathartics, than to give scope to the kidneys to respond gradually and gently to such remedies as cream of tartar, potash salts and digitalis. The position here referred to had been modified of late years by the admission: 1. That spontaneous diuresis often, if not invariably, occurred in such cases as a kind of crisis, or as the first step in the cure; 2. That (as Dr. Dickinson, in particular, had emphatically taught) the copious imbibition of "clear spring water," in quantities such as to make it particularly one of the most active of diuretics, tended to the relief, rather than to the obstruction, of the kidney in its physiological work; in other words, that flushing of the obstructed tubuli uriniferi, and general

furtherance of the true physiological activity of the kidney, tended (as Dr. Christison long ago showed) to the diminution of its pathological disturbance of functions as indicated by albuminuria, deficient excretion of urea, and dropsy. Dr. Gairdner regarded it as in accordance with clinical experience, apart from the theory that, whenever the simpler diuretics would act at all in such cases as were usually treated by means of elimination, their action should be furthered and encouraged, in preference to other modes of elimination. While he did not at all discountenance the use of purgatives on the one hand, or of diaphoretics on the other, in cases in which they were specially indicated, or in which diuretics could not be brought to act, he was always disposed to make such simple diuretic practice as was indicated above the keystone of the treatment, and to consider it as more in accordance with nature, and with the spontaneous tendency to crisis above mentioned, than the use of the stronger drastic purgatives, or even of medicinal diaphoretics, or the too repeated and somewhat enervating use of warm baths, or of air and vapors at a very high temperature. The exclusively diaphoretic practice of Dr. Osborne, of Dublin, seemed to have been tried and found wanting, and in a measure laid aside, until recently revived in another form in Germany, particularly by Bartels, whose admirable articles in Ziemssen's *Cyclopædia* would probably give rise to new elaborate trials of Turkish and vapor baths. Dr. Gairdner had often employed these with benefit; but he thought that these benefits would be exaggerated, if they were so employed as to shut out diuretics, or to divert habitually all the available liquids of the body for long periods together to one emunctory, and to so starve the supply of liquids to the kidney. In a few cases of great obstinacy, however, a certain amount of temporary benefit appeared to result from the hypodermic employment of pilocarpin in doses of one-eighth to one-fourth of a grain every second day. The limits of expediency in the use of such perturbative and medicinal diaphoresis had, however, to be determined by careful further researches. The same remark applied, in Dr. Gairdner's opinion, to blood-letting, which, at one time a frequent and even a very favorite remedy in the acute and sub-acute cases, had in later years almost gone out of date, but which had been yet more

recently revived by several observers and practitioners of good standing.

In conclusion, Dr. Gairdner said: "Finally—and to put into a single sentence the main object of this paper—I by no means claim to have discussed at all completely the treatment of Bright's disease; nor have I even alluded to several remedies—*e. g.*, gallic acid, benzoic acid, fuchsin—of which I have made personal trials with various results. But I hope to have shown, once for all, that in almost all stages of the disease there has been an undue tendency to depreciate or exclude diuretic remedies; and that these, judiciously employed, without pretending to an absolute supremacy, are at once the safest, and, in many cases, the most effectual, means of dealing with the dropsical symptoms; while, as Dr. Christison has pointed out, their legitimate function is not merely to get rid of a single symptom, but, by aiding the natural process of excretion by the kidneys, to ward off the dangerous accumulations in the blood which lead in time to what is called uremia. To restore by remedies this natural function, we must needs employ, in any case, methods of elimination that are more or less closely allied in their action to the physiological processes which it is desired to arouse and quicken; and hence, as I venture still to be of opinion, the experience of ages, here, quite in accordance with a sound theory, has practically demonstrated the advantage of the use in such cases of the cream of tartar, in its solid as well as liquid forms of administration, followed or accompanied by other mild diuretics or by digitalis—a mode of practice extending back, as we have seen, to the last century, if not to much earlier periods, and only apparently discredited by prejudices arising from the pathological researches of Bright. My argument in this paper is, that the principle of this practice, or the practice itself, ought to be carefully preserved, or restored again more generally and more systematically, in the treatment of this disease. As to the employment of tonics, nutrients, chalybeates, and other hematics, in the later stages, there is practically an universal consensus of opinion."—*British Medical Journal*.

Infant Psychology.

[WE learn that a Dr. W. L. Lindsay has recently put forth a work on "Mind in the Lower Animals," of about a thousand pages. This is the first work of the kind we have ever heard of, and, as a writer says, gives evidence that we may have at no distant day a comparative psychology. The field is a large one, in which there has been scarcely any workers at all. But we are beginning to have published some observations pertaining to infant psychology. In an exchange we find some data as regards infant development, which we present our readers. —ED. NEWS.]

But perhaps the most fruitful field for psychological investigation is that of infants and children. A recent writer in a contemporary review, commenting on this, says: "The psychological analysis of a single child is worth more than a whole menagerie; he who knows well the mind of a little boy or girl is already an expert in psychology." This is a field, however, which has been least of all investigated, though so close at hand that every parent can be something of a psychologist if he choose. Some indication of what a little careful observation can bring out is found in an article which has recently appeared from the pen of Prof. W. Preyer, of Jena. We propose to give a few of the observations which he has made. If the facts are not all new, the professor's method of studying babies will, at least, prove novel to many.

This study must begin, he says, with the observation of the movements and sensations of the child; we must then note the development of the different senses, the formation of speech, and the effect of all these things in awakening the intelligence of the child. Movements begin first; they occur *in utero*; they are not reflex from peripheral sensations, but are the evidence of a superfluous nervous and muscular energy.

The first manifestation of voluntary motion occurs when the infant begins to hold up its head. Attempts to do this were noticed in the fourteenth week, and after four months the head was kept well balanced. Next after the head, the upper part of the body was balanced; and the full power to sit up was acquired at the tenth month.

Ability to stand was, in the cases studied by Prof. Preyer, gained suddenly at the end of the first year. The

movement of grasping sometimes takes place at a bound. A pencil is grasped mechanically, when put in the hand, in the first quarter-year, but the action is wholly reflex. The first voluntary attempt to take hold of an object was observed in the seventeenth week. This first grasping was at once followed by many others of similar character. The child does not show self-consciousness, a knowledge of itself as an independent person, until after the fifth quarter-year.

The sensibility of the skin of a new-born child is very low. We may stick needles into its nose, lips or hands, without its giving any sign of discomfort. The eyes of new-born children close, when they are touched, more slowly than at a later period, and they do not close at all when wet in the bath. An increase of sensibility may be noticed in one or two days after birth. Prof. Kussmaul has shown that all new-born children can distinguish strong tastes. Taste, indeed, seems to be the first sense after that of sight, which affords clear perceptions to the baby. It is the first which gives occasion for the exercise of the faculties of memory and judgment. Infants distinguish odors very early, but to what extent has not been ascertained. Some animals born blind are guided to their food—the mother's milk—by this sense. Some odors, as tobacco-smoke, have been found unpleasant to young animals; others, as that of camphor, agreeable.

All infants are deaf at birth because the outer ear is as yet closed, and there is no air in the middle ear. A response to a strong sound is observed, at the earliest, in six hours, but often, not for a day or two. The awakening of the sense may be observed by the irregular muscular movements and blinking which a loud noise occasions. No other organ contributes so much as the ear to the intellectual development of the child. This is shown by the intellectual backwardness of those born deaf compared with those born blind. The sense of hearing becomes early developed, so that the child soon distinguishes the different tones of those about him.

Light is at first unpleasant, and the infant shuts his eyes when brought to it. Brightness and darkness can alone be distinguished. The motions of the eyes are wholly unregulated. There is no real symmetry of movement before the first six days. The first perceptions are those of light. The child turns his head to the window

within the first week. It is three weeks, however, before the eyes will follow a light that is moved before it.

The stupid expression on the child's face does not leave it until the second quarter-year. The face then begins to grow more human and spirited as the power is gained of regarding objects with a steady, independent look. The faculty of accommodation is then developing. The power to distinguish colors follows that of intelligent attention. Children all prefer light and bright colors. But they can rarely distinguish them by name before the beginning of the third year.

The recognition of form, size and distance comes on slowly. It must be helped by the sense of touch. In the third year children will show ignorance of size, and inappreciation of distance. In the first month no notice is taken of the swiftest approach of a person's hand to the mouth, and the act of blinking, which is evidently acquired, does not take place till the third month.

The study of the growth of the faculty of speech has been pursued by Prof. Preyer with especial industry. He has set down upon paper every expression and sound that could be represented in writing, uttered by a child during its first two years. He informs us that at first only the vowels are heard. Even in the first five weeks, however, these sounds are so diversified as to express many different feelings of the child. Thus, according to Prof. Preyer, the periodically broken cry, with knit eyes, denotes hunger; the continuous whine, cold; the high, penetrating tone expresses pain. Prof. Preyer heard the consonant *m* during the seventh week; in the seventh month the consonants *m*, *b*, *d*, *n*, *v*, and rarely *g*, *h* and *k* were distinguished. Very imperfect imitations of sounds were heard in the sixth month, and at this time voices began to be distinguished by the child. Great progress is made in the imitation of sounds after the third half-year, and the powers of articulation become well developed by the fourth half-year.

These are some of the observations that are given us. Very many of the professor's statements are based on but few observations, and it is very evident that there is a wide field for further study, and much that can be learned which will be of value in the education of children as well as to pure psychology. It might be in the interests of science to commend matrimony to young men ambitious of psychological study.

The Treatment of Compound Fracture with Compound Tincture of Benzoin.

BY FERGUS M. BROWN, L. R. C. P., EDINBURGH.

SOME time ago I read a communication on the treatment of the external wound in cases of compound fracture by the tincture of benzoin, and I resolved to try it when I had the opportunity.

On the 27th of August, 1878, I was sent for to see Mrs. R—, a widow, who had broken her leg. As I was four miles from home, in an opposite direction, and her residence was five miles from my house, I had to drive a distance of nine miles. I found her lying on the bed, the right tibia being pushed through the skin, about an inch protruding. I sent for the nearest medical man, but he was out; so I gave chloroform myself, and before I could reduce the fracture it was necessary either to enlarge the wound or saw off the projecting piece of bone. I first enlarged the wound, but being still unable to bring the ends into apposition, I was compelled to use the saw. Next I put it up in an inside and outside splint, bound with three straps made of girth-web and buckles. The leg was then laid on its outside, and the wound simply covered with a few folds of lint, steeped in compound tincture of benzoin. From time to time I had to desist during the operation for the purpose of giving another whiff of chloroform. There was no assistance save that of an ignorant female farm-servant, but my patient kept up well, though her age (sixty-eight) was against her. She had sustained the injury by falling from an apple-tree, where she had been gathering the fruit. Next day the leg felt perfectly comfortable, and after the first five days I saw her only about every third day. I did not move the splints or lints until October 12, on which day I put on a strong starch bandage. The following day, with the help of a crutch, she came down stairs. My last three visits were on December 1, 10 and 31; and now, with a high-heeled boot, she walks about, and attends to her house-keeping and farming as she did before the accident. There never was the least unfavorable symptom, nor was there a drop of pus.

My next case was that of a working timber merchant,

Mr. L——, aged fifty, almost a total abstainer, who, in superintending the removal of a large tree, was struck by the small and free end swinging round, the horses being attached to the large end. Both bones of the leg were smashed into pieces. There was, however, but a small external wound about the middle of the fibula. I put the leg up in the same way as in the last case. Next morning the whole leg, from the knee to the ankle, was one enormous blister; this I pricked, and covered the whole surface with lint soaked in tincture of benzoin. From the day I first saw him, April 7, 1879, until he was out attending to his business, in a starch bandage by the 1st of July, he had not a single bad symptom. I should add he was the most patient man I ever saw; always took things in an easy way. He had a peculiarity I have not seen or heard of before; did he at any time eat an egg he was certain to have an action of the bowels within ten minutes.

I have not attempted to go more minutely into these cases, as there is nothing important in them; but occasionally country practitioners are at a loss for some remedy for wounds which will obviate the necessity of going every day long distances to dress trifling injuries.—*Lancet*.

The Treatment of Consumption.

IN a paper on the treatment of pulmonary consumption, Prof. Peter, of Paris, insists strongly on the value of hydrotherapy. He begins with frictions with dry flannel, then passes to rubbing with cloths dipped in aromatic alcohol, cologne water, or vinegar, followed by dry friction for five or six minutes, and, finally, advances to the use of the cold sponge. The process is repeated twice daily, immediately after rising and before retiring. He believes sponging to be better than the douche, because it is more easily carried out. The chief points to be observed are, to accustom the patient gradually to the use of cold water, and not to prolong the bath too much at first. Prof. Peter divides the sweats of phthisis into three classes, according to their cause, viz.: ordinary night-sweats, which depend not so much on the pulmonary trouble as on the general condition and the tubercular fever, the sweating which follows high evenings exacerbations of the fever, and colliquative sweats. To control the first, he

recommends especially sponging with vinegar, combined with the usual internal remedies, such as acetate of lead, tannin, etc. Atropine, he considers unreliable. Quinine is useful for the second form, because it controls the fever. For the colliquative sweats, there is no remedy. For the cough, he gives opium and belladonna in small doses; he orders pills containing one-sixth of a grain of opium, and one-twelfth of a grain of ext. belladonna, and gives, at first, one at a dose, increasing afterward if necessary. When the cough causes vomiting, he gives one or two drops of tincture of opium before meals, with good effects. When the vomiting seems to be due more to dyspepsia than to the cough, he gives a few drops of hydrochloric acid after the meals. In such cases, alcohol in some form is also useful, but it must be given freely. For the diarrhea, when it is due to simple intestinal catarrh, as is usually the case at the outset of the disease, he employs subnitrate of bismuth, in connection with a carefully regulated diet. When it is due to the use of cod-liver oil, or to the milk or grape cure, the exciting cause must be discontinued, and the stomach, if overloaded, be emptied by an emetic. When it is due to inflammation of the stomach and intestines, he prescribes opium, nitrate of silver, perchloride of iron, etc., and employs also derivatives to the skin. For colliquative diarrhea there is no remedy. For controlling the expectorations, he has found the balsams, glycerine and kermes, to be the best remedies. For hæmoptysis, he recommends, in the first place, the use of emetics, and explains their action on the theory that they excite a reflex action through the sympathetic, which causes anæmia of the lungs, and controls the hemorrhage. When patients have been greatly reduced by the hæmoptysis, he has found quinine and ergotine useful.—*Alleg. med. Cent. Zeit.*, February 25, 1880.—*Med. Record.*

To Restore Motion in False Anchylosis.

THE simple plan of treatment which I have for years adopted, is as follows: Imagine the knee to be the affected joint, and the foot should rest on a stool or block of wood, just within a large shallow open bath, so that the knee is over nearly the center of the bath. A jug, holding about a pint of fluid, is filled with tepid water, and

is turned upside down about three feet above the knee, so that the water falls with a splash on the joint, and this is repeated from six to twelve times. An attendant, sitting in front of the patient, then plants a hand on each side of the knee, and, with the thumbs meeting in front, the hands should be moved firmly up and down for eight or ten minutes. The pressure used should be equal and well sustained, not causing any uneasiness, not in the least rough, but such a union of firmness and gentleness as a practical manipulator will easily understand. The thumbs, while agents of moderate pressure themselves, may be made the fulcra for pressing and rubbing the back of the joint. At the end of the shampooing process, the whole joint ought to be dry and warm, and to be immediately wrapped in a covering of oiled silk lined with wadding, which should be securely fastened and kept on for some hours.

By this easy plan, carried out regularly once or twice a day for several weeks, there is seldom any difficulty in restoring the torpid functions of non-ankylosed joints. Now and then it may be desirable to suspend the friction for two or three days, if the skin show signs of irritation; and in warm weather the impervious pad is scarcely necessary, and might cause an eruption of pustular ache. Medicated lotions or liniments are rarely prescribed, but now and then I introduce under the oiled skin wrap a piece of folded flannel, soaked in a mixture of tincture of iodine (half an ounce), glycerine (half an ounce) and soft water (seven ounces). The early douchings are best done with tepid water, but this should be exchanged for cold water as soon as possible, on account of the greater glow and reaction which are afterward obtained, and during the summer months, cold water may be used from the first. In all cases, the local treatment should be supplemented by regular passive movements, carefully and coaxingly executed, and never exciting pain and fatigue. Sometimes it is only timidity which hinders a patient from (say) pronating and supinating a hand, or flexing and extending an elbow; a group of muscles have to be taught anew. As the lower limbs bear the weight of the body, their voluntary exercise must be deferred until the patient regains confidence and acquires strength.—*Dr. Spender in British Medical Journal.*

Hyoscyamia.

THIS alkaloid of hyoscyamus, which can now readily be obtained in a state of purity, is a valuable addition made recently to the armamentarium of the physician, containing, as it does, in small and agreeable compass, the hypnotic, anodyne and antispasmodic properties of the bulky and disagreeable preparations of hyoscyamus. The pure alkaloid occurs in needle-shaped crystals, and is odorless. The taste is bitter. It is quite insoluble in cold water; easily soluble in hot water and alcohol, ether and chloroform. It has, in my experience, great value in the treatment of mania, delirium tremens and paralysis agitans. In the treatment of mania it is particularly useful, inasmuch as the dose is small, and its taste can readily be concealed with coffee, tea or milk, and therefore is readily administered to those patients who positively refuse all ordinary medication.

I have given the drug recently in three cases of puerperal mania, with the effect of promptly modifying the mentality to such an extent as to make possible the use of ordinary treatment. The preparation used was Merck's crystallized alkaloid, and the dose found effective much smaller than that recommended by recent writers—the one-thirtieth of a grain has been the ordinary dose employed. This dose has invariably produced mydriasis, and dryness of mouth and throat.

In the case of Mrs. B., suffering with puerperal mania, who was persistently refusing food and medicine, and at times quite violent in manner, the drug produced a marked change in mental condition. The violence gave place to calmness, and the desire for food returned. It did not, however, produce sleep, but advantage was taken of the pacification to administer, by rectum, a full dose (40 grains) of chloral hydrate, which was promptly followed by a long sleep, and marked improvement in mentality. In about twenty-four hours after this, there was evidence of the approach of another paroxysm of mania, which was arrested by the same method. The drug was then continued for several days, in doses just sufficient to produce a mild effect upon the pupil, the chloral injection given at bedtime, and an abundance of milk and other nutritious food administered. The patient made a good recovery.

CASE II.—Mrs. N., a case of puerperal mania, complicated with metro-peritonitis. She had for twenty-four hours refused all food and medicine, and was found to be in a state of wild excitement. She was ordered hyoscyamia, in one-thirtieth grain doses every four hours; and shortly after the third dose was administered, she was found to be perfectly passive in mind and body, and took food without difficulty. She then received a forty-grain rectal injection of chloral, with forty minims of tinctura opii deodorata. This was followed by a profound sleep, from which she awoke with improvement in mental condition. The hyoscyamia was continued at longer intervals, and tinctura opii deodorata used by rectal injection, in sufficient doses to subdue the pain of the pelvic inflammation. The mania subsided, but death ensued in the fifth week after parturition.

CASE III.—Mrs. P., a mild case of puerperal mania without any pelvic complication, but like the other, refusing food and medicine. Hyoscyamia (1-30 grain) was administered in ice-water, and repeated in two hours in the same vehicle. In one hour after second dose, muscular relaxation and pacification of mind were manifest, and very soon a profound sleep followed. The patient was continued under the influence of the drug for two weeks, with a gradual subsidence of mental derangement, and a restoration of general health.

My experience with the drug in delirium tremens is confined to a single case, in which there was marked cardiac irregularity and dyspnœa—so much so that I was afraid to administer chloral or the bromides. I gave this patient hyoscyamia in combination with digitalis in coffee, in the same dose above indicated, and closely watched the effect on the pulse. From a study of the physiological action of the mydriatic, I felt confidence in it as a respiratory and cardiac stimulant. The first dose had no effect upon the mental condition, but did improve the respiration and circulation. A second dose was administered in one hour, and was shortly followed by a subsidence of the excessive mental and muscular activity. Sleep followed, and a continuance of the treatment, giving just enough hyoscyamia to show its effects in a positive manner upon pupil, with liberal use of milk, beef-tea and capicum, resulted in restoration of patient, the result being

in every way more favorable than opium, chloral or the bromides have ever produced in my experience.

In one case of paralysis agitans, the drug has served to diminish the tremor, and seemingly to arrest the progress of the disease. This patient is now taking about one-fortieth of a grain daily. This amount produces the characteristic pasty condition of the mouth, dilation of the pupil, and paralysis of accommodation. The one-twenty-fourth of a grain produced in this patient severe pains and spasmodic movements of the lower extremities, followed by complete muscular relaxation, and the effect on the eyes and the locomotion continued for forty-eight hours. The tremor is controlled by the drug very markedly, but there has been no permanent improvement. When he omits the drug for two or three days, the disease shows itself with all its former intensity. The relief the remedy gives to the tremor without in any way disturbing the general system, except so far as the ocular phenomena are concerned, renders the drug exceedingly acceptable to him.—*Dr. Brower, in Chicago Medical Journal and Examiner.*

Peritonism.

If we pass from the biliary lithiasis to other abdominal affections, we will find other problems quite as interesting.

Who has not often demanded, in presence of a mortal peritonitis, why and how one died of a peritonitis? Assuredly it is not by a direct effect of the inflammation of the peritoneum, and of the immediate functional troubles that result from it. But underneath the peritoneum there are nervous filaments which emanate from the solar plexus. When the membrane is inflamed, the nerves are disturbed, if they are not also inflamed, and this disturbance follows an ascending course, from the filaments reaching the branches, and from the branches the trunks; the system of the great sympathetic receives a shock, and this shock overturns the organism. Thus the nervous troubles dominate over the morbid scene; super-excitation of the apparatus of sensibility; revolt of the motor apparatus, arrest of the peristaltic movements, from whence tympanites of the belly and constipation; development of the antiperistaltic movements, from whence bilious vom-

ittings; participation of the vaso-motor apparatus in its whole extent in the morbid movement, whence chill, coldness of the extremities, retreat of the ocular globes, hindrance of respiration, accumulation of blood in the venous system, diminution of the arterial waves cast from the heart, drying up of the secretions, etc. Such is the very faithful *tableau d'ensemble* which M. Fabre traces of the peritonitic state, in which we see almost wholly nervous phenomena. It is clear that it is not the condition of the peritoneum itself which causes the disease, but really the great sympathetic, incited by the abundant nervous plexus which it sends into the mesentery.

Thus is found theoretically and logically justified the empiric use of opiates that almost all of the great practitioners have recommended against peritonism.

By the side of peritonism is placed the choleriform state, or algidity, analogous by the predominance of nervous perturbation, but differing in that the sensitive system is there less attacked and the alteration of the vaso-motor system more profound, whence the symptomatic differences which follow: absence of abdominal pain, more or less abundant gastro-intestinal evacuations.

This algidity presents itself with a character more general than peritonism; it is in some sort the common expression of grave abdominal affections reacting on the nervous system. We have seen above an example of it in the biliary lithiasis. It is one of the characters of epidemic cholera, and we frequently find it in the choleriform enteritis of young infants. In this condition we can not mistake the considerable role of the nervous system.—*Gaz. des Hop.*

Abortion through Sympathy.

It is well known to veterinarians that among cows abortion prevails apparently through sympathy, becoming epidemic in herds. The following case, reported by a writer in the *British Medical Journal*, looks as if the same thing may occasionally occur in the human species. He writes:

"Some days since I was hurriedly sent for to see a woman, wife of a small tradesman, who was said to be

violently flooding. On my arrival, to my surprise, I found *two* women in the one bed. The one for whom I was especially sent was said to be now easier, and free from flooding, but that the other (her sister) was very bad, her "womb having come down" suddenly, while looking after her sister. Upon examination I found a three months' fetus born, all but the head. I removed the child and placenta, which followed immediately, and turned to my other patient, and found that she, too, was miscarrying, and at about the same period of gestation."—*Medical and Surgical Reporter*.

GLEANINGS.

BY CHAS. A. L. REED, M. D., HAMILTON, OHIO.

THE CURE OF CANCER BY RADICAL OPERATIONS.—In the *Deutsche Zeitschrift für Chirurgie* (vol. xiii., pp. 134-166), Prof. Kocher, of Berne, publishes a report of twenty-nine operations for cancer. Five of these were partial pharyngotomies, fourteen were cases of excision of the tongue, and ten were cases of rectal excision. Four cases terminated fatally, three in consequence of septic processes, and one owing to accidental hemorrhage. Of the remaining twenty-five, nine may be looked upon as radically cured.

Kocher's method for the extirpation of the pharynx consists of a combination of the methods of Langenbeck and Gussenbauer. He favors extensive cutaneous incisions. Crico-tracheotomy is a necessary preliminary operation. In two cases Kocher secured an efficacious "tamponade" of the trachea, by introducing, during profound anæsthesia, a suitable carbolized sponge into the larynx. The incision which he practices is an angular one, and proportionate in its extent to the amount of glandular participation in the morbid growth. He begins his cut in the median line, or directly below the angle of the mouth at the maxillary margin, and extends it down to the hyoid bone, and thence backward to the anterior border of the sterno-mastoid muscle. From this point he again proceeds upward along the posterior border of the ramus of the inferior maxillary as high as the pinna of the ear, and downward as far as the larynx.

This flap is then turned back, and temporarily fastened by suture to the facial skin. Now the large vessels are found by preparation along the anterior border of the exposed sterno-mastoid; then he works his way to the great cornu of the hyoid bone, and along the anterior belly of the digastric muscle to the margin of the maxillary bone, and backward to the angle of the jaw. The lingual and facial arteries must be ligatured, of course. Now the larynx is filled with a tampon. After this, he finds his way through the mylo-hyoid muscle on the inner side of the maxilla to the mucous membrane, which is incised at this point. The finger can now be readily introduced into the mouth and pharynx, and the exact limits of the cancerous tumor ascertained. The operation is then continued along the hyoid bone, and proceeds thence to the tongue. The lateral and posterior pharyngeal walls are easily separated from below, whereas the soft palate can be reached from the buccal cavity. Antiseptic dressings are strictly enforced. The same Listerian rigidity is applied to the excision of the tongue and operations on the rectum. As a preparatory treatment for rectal operations, Kocher allows only fluid food for two weeks before an operation, and also insists on daily irrigations of the rectum during this time. The irrigations immediately preceding the operation are made with borated or solicylated water.—*Centralbl fur Chir.*, August 14, 1880.

TREATMENT OF NASAL POLYPI BY INJECTIONS OF CHLORIDE OF ZINC.—The parenchymatous injection of aqueous solutions of chloride of zinc has been successfully tried by Dr. Ingels (*Annales et bul. de la Soc. de Med. de Gand*, July, 1880) in cases of nasal and naso-pharyngeal polypi. After alluding to Dr. Barthelemy's recent experience in a case of this kind, the writer communicates his own observations, three in number. The first case related was that of a lady, sixty-six years of age, who had suffered for many years from the presence of a naso-pharyngeal polypus of the fibroid variety. The senses of taste and smell were quite abolished, and her respiration was embarrassed. Previous attempts at operative treatment had invariably been the occasion of alarming hemorrhage. A final examination, in consultation with a colleague, revealed a gangrenous patch upon the tumor, just behind the velum

palati. It was therefore determined to assist the process which nature had seemed to indicate, and for this purpose a saturated aqueous solution of chloride of zinc was injected, by means of a suitable hypodermic syringe. Similar injections were repeated at intervals of two weeks, and numerous eschars were thus formed. The detachment of these produced a palpable diminution in the size of the tumor. It was also attacked from the nasal openings, and here also good results were obtained. The second case passed from under Ingels' observation before definite results of the injections, only two in number, could be ascertained. This patient had complained of much pain after each injection, and it was probably owing to this circumstance that he failed to reappear. The last case, showing the most complete success, was that of a strong man, about thirty years old. This case, however, also demonstrated that these parenchymatous injections are by no means entirely harmless, for immediately after the introduction of the fluid, the man had a severe and prolonged attack of syncope. His complete recovery from all untoward symptoms only took place on the third day after the operation. A cyanotic patch, which had formed on his forehead, remained even some time longer than this. Dr. Ingels explains these manifestations by an assumption of extreme vascularity in the tumor, and by the direct entrance of the chloride of zinc solution into an engorged vessel. The blue spot on the forehead would thus be the result of impeded venous return, due to the presence of an obstructing clot.

BEEF TEA AND ITS VALUE.—Certain intro-chemists and intro-physiologists, not being able to discover what were the nutrient elements in beef extract and beef tea, have of late years much decried those preparations. At most, they allowed them to be "condiments." Fortunately, common sense and clinical experience are gaining the day over the theoreticians, and we take pleasure in publishing the following details, contributed by Mr. Wilkin-son, House Governor of St. Mary's Hospital, London, to the *British Medical Journal*:

The mode of preparing beef tea at St. Mary's Hospital is as follows: The meat is cut into small pieces, and placed, in the evening, in an earthenware vessel, with sufficient cold water to cover the meat; in this it is al-

lowed to remain all night. In the morning the meat is taken out, placed in other water, and boiled for several hours. The meat of the previous day is then passed through a mincing machine, and put into the cold liquor in which the meat was steeped the previous night, and upon this the boiling liquor from the day's beef tea is poured, and the whole well stirred, and it then forms the complete beef tea. The characteristics of good beef tea are, that all the nutritious elements of the beef should be made available; and, by the process carried out as above, this is effectually done, the albumen, fibrine and gelatine being all retained and taken by the patient. Moreover, by the above method, a much smaller quantity of meat is required than under the ordinary mode, and it would, consequently, not become a jelly if allowed to stand; but by adding a larger quantity of beef this result could, of course, be obtained. (This forms with us what is called beef jelly.) It should, however, be remarked that in very hot weather the beef tea can not be made in this manner, as it would become sour, from the length of time required for its preparation.

ANTISEPTIC MIDWIFERY.—Dr. Matthews Duncan, in a recent paper on this subject, presents many practical suggestions of value. Dr. Duncan says that by far the most frequent of the causes of puerperal deaths are pyæmia and septicæmia. Both these diseases involve or imply inflammatory processes, and both are essentially septic; and it is against them that antiseptic midwifery wages war, and in which he said it had already achieved great success. His remarks were confined to the local use of antiseptics. He pointed out that the healthy lochial discharge of some women approached in smell the odor of putrefaction, so that it was not always possible to discriminate them; but in all doubtful cases it is well to treat them as if putrefactive, in order to prevent such discharges from finding their way into the blood through uterine sinuses or lymphatics, setting up blood poisoning. The removal of all putrefying material is essential to the prophylaxis or arrest of septicæmia. All measures to this end should be promptly and thoroughly applied. They consist in irrigation with carbolized water; and where it is necessary to pass the hand or instrument into the womb, they should in all cases be smeared with the

ordinary carbolic acid and oil mixture. Dr. Duncan recommends an injection of the strength of one part in fifty, from one-half to a pint being used at a time. He recommends a double canula to secure free return of the injected material. The injection should be gently introduced through a tube from a point above the patient. The running out should be carefully watched, and the moment the outflow ceases the injection should be stopped. He opposes the leaving of the intra-uterine tube *in utero* with a view to drainage, for, if antiseptically plugged, it is a source of danger in itself. He also warns against too frequent daily injections.—*St. Louis Med. and Surg. Journal.*

ON PAPAIN.—The digestive ferment of *carica papaya* has received this name from Bouchut and Wurtz. The latter contributed to our knowledge of the drug in a communication to the *Repertoire de Pharmacie*. He finds that it possesses a composition of an albuminoid substance. When purified by the subacetate of lead, the following additional qualities were ascertained. It is freely soluble in water, dissolving in less than its own weight of that fluid, just like gum. When shaken, this fluid forms an abundant froth. Ordinary impure papaine, when dissolved in water, sometimes leaves an insoluble white residue. On boiling, the clear solution becomes turbid, but does not coagulate like albumen. When allowed to stand, it also becomes turbid, owing to the formation of low organisms. Hydrochloric acid causes an abundant precipitate, which redissolves in an excess of the acid. Nitric acid forms a precipitate of yellowish flakes, which likewise redissolves in an excess of acid. Ordinary phosphoric acid and acetic acid cause no precipitate; but the metaphosphoric acid does. Other reactions are given, which all tend to show the albuminoid nature of this substance.

Its action on albuminoid bodies is similar to that of the pancreatic ferment called trypsin. It rapidly dissolves large quantities of fibrin, even in fluids of neutral reaction. M. Wurtz has also been able to extract from the juice of *carica papaya* a saponifiable greasy substance, and a crystallizable nitrogenous principle, which remained undissolved in the fluid from which the impure papaine was precipitated.

EXTIRPATION OF A NASO-PHARYNGEAL POLYPUS BY THE PALATINE METHOD.—This case was communicated by Cruvelhier at the Societe de Chirurgie de Paris (*Bulletin et Memoires*, April 5, 1880). A young man, aged 17, had suffered for over two years from obstruction of, and frequent hemorrhage from, the right nostril. On examination, a tumor was found occluding the right nostril, and filling the posterior part of the nasal fossæ, where it could be felt by introducing the finger behind the soft palate. The palatine arch appeared convex. There was no deformity of the face, nor protrusion of the right eye, but there was some slight epiphora. The palate was divided in the middle line, exposing the polypus, which was then seized by the forceps and extracted. The hemorrhage was so excessive that the patient fainted. The polypus was very large, and presented two distinct lobes; one was attached to the pterygoid plate of the sphenoid, the other to the basilar process of the occipital bone, which was so eroded that it was feared the tumor had penetrated into the interior of the skull. The patient progressed steadily, and was discharged a month and a half afterward. The gap in the palate, which extended almost as far forward as the anterior palatine foramen, was closed about a year after the operation by Ferguson's method. Owing to the constant flow of mucus down the back of the throat, which had existed since the extraction of the tumor, the union did not take place by the first intention; but, by bringing the granulating surfaces as much into contact as possible, and filling up the gap that remained with the uvula, a restoration of the palate was finally accomplished.—*London Medical Record*, August 15, 1880.

QUININE PRODUCTION IN INDIA.—The *Pall Mall Gazette* says that the experiments begun ten or twelve years ago for naturalizing in certain parts of India the best varieties of the cinchona or Peruvian bark tree have been attended with the most remarkable success, and with beneficial effects still more remarkable (*British Med. Journal*). In the treatment of the fevers and other forms of disease endemic in India, the employment of quinine has always been a chief means of cure and of prevention. But the increasing demand had raised the cost of the imported drug to a point which rendered its use impossible to millions and tens of millions of the poor classes of India. Hence it occurred

to a few of the more enterprising spirits in the Indian Government that vigorous efforts should be made to acclimatize the cinchona-tree itself in certain districts of India and Ceylon. The experiments have been entirely successful, and there are now in various stages of growth probably millions of cinchona plants already yielding the Peruvian bark so plentifully and so perfectly that the price of quinine has fallen in Ceylon, and other parts, to about two rupees (three shillings and sixpence) the ounce, and to fifty cents the ounce for preparations of a diluted strength. There is the strongest possibility, amounting to certainty, that in six or seven years the Indian production of quinine will be so large, and the price so low, that it will become a considerable article of export; bearing in mind that every fall in price means extending use in India in the cure and prevention of fever and disease, and therefore the cure and prevention of want and suffering among the poorest class of the native population.—*Louisville Med. News.*

PLUGGING THE CERVIX UTERI.—In the British Medical Association meeting, Dr. Henry Bennett mentioned a mechanical mode of treating intractable uterine hemorrhage, which he believed he was the first to introduce, more than thirty years ago, viz.: the plugging of the cervix uteri itself. In morbidly prolonged menstruation or menorrhagia, in the continuous hemorrhage which sometimes occurred at the cessation of menstruation, in hemorrhage from small polypi, in hemorrhage in the early months of menstruation, threatening abortion, or from the presence of blighted ova or moles, or from retained fetal placenta after abortion, he had found this method of practice invaluable and most efficacious. Hemorrhage was at once arrested, as would be the flow of wine from an uncorked bottle when a cork was inserted. He got the uterine neck fairly in view with a full speculum in a good light, and, by means of the speculum forceps, filled up the cervical canal with pledgets of cotton-wool, each tied to a thread. These threads were united and brought out of the vulva, lying on the perineum when the speculum was removed. At the end of twenty-four hours, they were pulled away, and the cervix exposed with the speculum. If blood still oozed out of the os, they were renewed. If an ovum or mole, or membranes, or a piece of placenta,

presented after one, two or three days' treatment, it was pulled out with the speculum forceps. He never had any accident.—*British Medical Journal*.

ERGOT POISONING.—In a case of midwifery, where subsequent hemorrhage was apprehended, a bottle of ergot was left by the doctor, with directions to administer half a teaspoonful every half hour in case hemorrhage occurred. By a misunderstanding, the half teaspoonful of ergot was administered every half hour from the time the doctor left. I reached the house a few moments after the messenger had been sent in search of me, and found my patient presenting an appearance that was indeed alarming. The face was of a bluish tint, and she seemed in great pain. The pupils were dilated, the pulse was quick, very weak, and occasionally irregular; there was dyspnoea, nausea (no vomiting), buzzing in the ears, and, at times, a tendency to syncope. The skin was cool and clammy. I was informed that another baby was expected. Upon inquiry, I learned that in all she had taken about $\frac{3}{4}$ ss. of the fluid extract of ergot (and this was afterward corroborated by the medical attendant from the amounts left in the bottle which he himself had brought to the house). I loosened the binder, lowered her head, gave her some whisky, and stimulated the circulation by rubbing, and, in the space of half an hour, the severity of the symptoms had gradually passed, and the patient was left to sleep off a dose of morphia and potass. bromide that was administered. One of the most interesting features in the case was the powerful uterine contractions. This alone was so marked as to have silenced in my own mind any doubts as to the efficiency of ergot, had I ever been a skeptic on the subject.—*Medical Record*.

ACUTE RHEUMATISM TREATED BY HOT WASHING-SODA BATHS.—In the *Australian Medical Journal*, for April, two cases of acute rheumatism, treated by hot washing-soda baths, are reported by Mr. Bingham Crowther, L. R. C. P., as occurring under the care of Dr. E. L. Crowther. In this treatment the patients are taken in a blanket by the four corners, and lowered down in a recumbent position into the bath. Half a pound of common washing-soda is added to the water, as hot as can be comfortably borne, the patient remaining in from ten to fifteen minutes, then lifted into a dry, warm blanket, and replaced in bed. According to

the reporter, profuse diaphoretic action follows, along with diuresis, to the immediate relief of the sufferer, pains rapidly depart, and sleep follows the use of the remedy. In one severe case convalescence was effected in eleven days. The other case was treated without permanent benefit with salicylate of soda and various sedatives and salines. On the 25th of December, 1879, "the patient becoming immovably fixed in bed by the affection of new joints, and all remedies proving useless, the washing-soda bath was tried as a last chance. After remaining in ten minutes he was removed. His complexion soon changed from a muddy to a natural color, and the pains left all the joints." On the 27th there remained only a little aching in the body and slight pain in the left wrist. Complete recovery having been established on the 8th of January, the baths were discontinued.—*Philadelphia Reporter*.

TREATMENT OF PHTHISICAL COUGH.—Several correspondents give their experience on this subject in the *British Medical Journal*:

Dr. T. F. Pearse recommends the tincture of gelsemium sempervirens in twenty-five minim doses three times a day. He generally prescribes it with dilute phosphoric acid. If there be much expectoration, compound tincture of benzoin is often useful.

Mr. T. Garrett Horder strongly advises hydrobromic acid in doses of twenty minims. It may be given with the addition of spirits of chloroform. He has also found the inhalation of the vapor of iodine very useful in chronic cough.

Another correspondent recommends fifteen minims of hydrobromic acid and ten minims of chloric ether in a dessertspoonful of water four or five times a day, with a pill containing a quarter of a grain of codœia three times a day.

Mr. A. de Winter Baker (Dawlish) recommends the following formula:

R. Tincturæ pruni Virginianæ,	3j
Glycerini,	3 ss
Nepenthe (Ferris & Co.'s),	m v.
Aquæ,	q s. M.

He generally orders it to be given when the cough is troublesome, and repeated in three or four hours, if re-

quired. In troublesome cases he also orders a double dose to be given at bedtime. He has never known it to fail to relieve cough; and it can be taken for a long period of time without disturbing the digestive organs.

ON GLYCERINE IN FLATULENCE, ACIDITY AND PYROSIS.—Drs. Sidney Ringer and Murrell state that they have found glycerine very useful in flatulence, acidity and pyrosis. It is not an infallible remedy, but it proves very useful in the great majority of cases, and sometimes succeeds speedily where the commonly used remedies have completely failed. The cases of flatulence, in which it has been used, were cases of stomach flatulence; as it is so readily absorbed it could not be expected to influence the formation of wind in the colon. In some cases it removes pain and vomiting, probably like charcoal, by preventing the formation of acrid acids, which irritate delicate and irritable stomachs. The glycerine probably acts by preventing some forms of fermentation and putrefaction, but it does not interfere with the digestive action of pepsin and hydrochloric acid. Hence, while it prevents the formation of wind and acidity, probably by checking fermentation, it in no way hinders digestion. The dose is one or two drachms before, with, or immediately after food. It may be given in water, coffee, tea, lemonade or soda water. In tea or coffee it may replace sugar. In some instances a cure does not occur till the lapse of ten days or a fortnight.—*The Lancet*.

ACUTE HYSTERICAL VOMITING DUE TO UTERINE DISPLACEMENT.—Dr. Grailey Hewitt presented to the *Clinical Society* (*Lancet*, June 19), notes on a case of this sort. The patient, in February, 1879, had brought on displacement by jumping from a height of six feet. Cessation of menstruation, more or less constant, sickness at the stomach, with progressive emaciation, ensued until December of same year. Ten months after the accident, the patient applied for treatment, when her true condition was, for the first time, diagnosed. The uterus was low down in pelvis, much swollen, and in a state of acute anteversion. Treatment consisted in nutrient enemata thrice daily, and in placing patient on elbow and knee position for two or three minutes every hour. Improvement at the end of a week when the sound was used and the uterus elevated.

The operation caused slight sickness at first, followed by marked improvement. At the end of a fortnight cradle pressary was introduced, and afterward retained undisturbed. From this time appetite, digestion, weight and general condition continued to improve. Sickness was entirely gone at the end of the third week. Seven weeks after admission, discharged. Menstruation has since returned, and general health as good as ever.

A NEW METHOD FOR THE OPERATIVE TREATMENT OF PROLAPSUS ANI.—Prof. Kehrer, of Giessen, Germany, has devised a new method for the treatment of prolapsus ani, and reports two successful cases with the same. After briefly alluding to the ordinary methods now in vogue, and commenting upon their frequent inefficiency, he proceeds to explain how he was led to attempt the new method. This was by the simple consideration of a rubber ring, which, owing to frequent over-distention, has ceased to act in a proper manner. If a knot be tied into such a ring, or if a loop of it be secured by a string, its former action will be restored. This simple principle he applied to the over-distended sphincter ani in cases of prolapse. That is, he folds together a portion of the sphincter, and, after excision of its mucous covering, secures the folds by means of a firm suture. Thus a portion of the ring is eliminated, and the caliber narrowed correspondingly. In the two cases which were subjected to this operation, a speedy cure took place.—*Deut. Med. Woch.*, August 14, 1880.

THE USE OF CHLORAL IN PHTHISIS.—A Russian doctor writes to the St. Petersburg *Medical Gazette*, on the "Utility of Chloral in Phthisis." In every case he had administered it he never had had the slightest accident. Sleep had been always calm. The physical symptoms were less evident in the morning; the patients felt themselves better and stronger; never did they complain of headache. When the chloral was suspended insomnolency appeared. The author sums up with the following conclusion: Chloral, as a hypnotic, is by no means indicated in phthisis. In the dose of from fifteen to thirty grains it can not do any harm, except in the last stage. It always procures refreshing sleep. It diminishes the sweating and checks the losing of weight. It lowers the temper-

ature, increases the urinary secretion, and does not produce headache, nor disturb the digestion.

BEST MODE OF GIVING ERGOT.—Dr. A. Luton, Professor of Clinical Medicine in the school at Rheims, discusses this question quite fully, and strongly commends the hypodermic use of this drug whenever it is indicated. He is not in favor of any of the so-called ergotines of commerce, and prefers the simple alcoholic tincture of the Codex. He contends that the vehicle, alcohol, is no more irritating than those advised to dissolve ergotine, such as glycerine, or chloroform, ether, etc., which have also been injected under the skin. The pain produced by the alcoholic tincture is slight and transient, especially if the point selected for the injection has a thick layer of cellular tissue, such as over the abdomen or toward the haunch. He has never observed an abscess to form after it has been used.

As to the dose, he has obtained as good results from one gram of the tincture (15.4 grains) injected, equivalent to twenty centigrams (3 grains) of the powder, as from the usual dose given by the mouth. Given by the mouth, ergot, like other fungi and highly nitrogenized bodies generally, must be partially digested or destroyed, hence we fail to get the full medicinal results of the dose, while, if it is given subcutaneously, we shall obtain its entire therapeutic power. Theoretically, we ought to reach definite results by giving ergot hypodermically, which we can not expect when it is given by the mouth. Practically, we find this to be true. In two cases of hæmaturia treated by Prof. Luton in the Hotel Dieu, of Rheims, no effects were produced by daily doses of ten grams of the tincture given by the mouth, while daily injections of one gram of the same tincture caused the symptoms to disappear in two or three days.—*Union Med. et Scientif. du Nord-Est*, June 15, 1880.

CONGENITAL NEUROTIC PAPILLOMA.—At the recent meeting of the British Medical Association (*British Med. Jour.*, vol. ii., 1880, p. 387), Mr. Wyndham Cottle read a description of the case of a boy whose skin presented lines of dark wartlike growths in the course of certain nerves. These lines were confined to one side of the body and limbs, and the rest of the skin was normal. The markings had existed from birth, and followed the course

of the cutaneous branches of the fifth nerve, the internal cutaneous, intercosto-humeral, and the saphenous nerves, and also occupied the middle line in front. They were limited to the right side, and were composed of contiguous filiform papillomata, and in structure corresponded to ordinary filiform warts. The lesions were closely allied to ichthyosis hystrix, from which they were separated by being unilateral, following the course of certain nerves, and being attended by no accumulation of epithelial debris, horny plates, etc., from alterations in the sebaceous glands. They probably depended on morbid intra-uterine nerve-influence, akin to the zoster of later life, and formed a striking example of perverted nerve-action in nutrition. Mr. Cottle proposed the designation "congenital neurotic papilloma."

RHEUMATISM.—Dr. J. H. Egan, of Pulaski, Tenn., has the following in regard to *manaca* in this disease:

Latterly I have used a new remedy, which has given me satisfaction. I refer to fluid extract *manaca*, which is a Brazilian medicine, officinal in the pharmacopœia of that country, and justly celebrated for its remedial powers in rheumatism. My general formula is:

R.	Fl. ext. <i>Manaca</i>	. . .	3ii.
	Elixir simplicis	. . .	3ii.

M. S. A teaspoonful every hour.

The great benefit derived from *manaca* is the profuse perspiration which it produces, and alleviation of pain. Sometimes headache is occasioned, but it is transitory and can be at once cut short by partaking of a cup of coffee. The above prescription is alternated with the salicylate of potash or iron. In chronic rheumatism I use the *manaca* conjoined with a liniment applied three or four times daily.

When heart complications exist, remedies must be used to meet the indications of each case.—*St. Louis Courier of Medicine*.

ACTION OF VARIOUS DIURETICS.—Dr. Maurel gives the result of his experiments (*Bulletin General de Therapeutique*) as follows:

1. Nitrate of potassium, uncertain as to the quantity of liquid, augments the solid material of the urine to a notable degree. The most active doses are a drachm to a drachm and a half.

2. Chlorate of potassium, less active with respect to the augmentation of solids, increases the fluids of the urine to a greater degree.

3. Acetate of potassium is uncertain, as to the quantity of both solids and fluids.

4. Iodide of potassium, far from being a diuretic, even seems to diminish the quantity of urine.

5. Salicylate of sodium, uncertain as to the quantity of liquid, increases the solid constituents of the urine.

6. Of three vegetable substances experimented upon—squill, colchicum and digitalis—the latter alone is a real diuretic. It augments at the same time the quantity of both solids and fluids. Dr. Maurel gives it as his opinion that no diuretic acts when the system is in a febrile condition; this must be modified before diuresis can occur.—*Buffalo Medical and Surgical Journal*.

GLYCERINE IN FLATULENCE, ACIDITY AND PYROSIS.—Drs. Sydney Ringer and William Murrell find (*Lancet*, July 3, 1880) that glycerine is useful in acidity, flatulence and pyrosis, and that it sometimes relieves pain, probably by preventing the formation of acrid acids which irritate delicate and irritable stomachs. They suggest that it acts by retarding or preventing some forms of fermentation and of putrefaction, and, while doing so, it in no way hinders digestion. They administer one or two drachms in water, coffee, tea or lemon, and soda-water, either before, with, or immediately after food. In tea and coffee it may replace sugar, a substance which greatly favors flatulence. In some instances a cure does not occur until the lapse of ten days or a fortnight.

COLOR-BLINDNESS IN THE PROFESSION.—At a recent meeting of the British Medical Association seven hundred members were examined on this point: twelve were completely color-blind, six red-blind, and six green-blind, and two were incompletely color-blind, one red and one green—in all, fourteen. Of four others who were not color-blind it may be said that their chromatic sense was feeble. A large number who presented themselves for examination expressed a belief that they were color-blind whose color-sense was yet found, on examination, to be normal.

AN EPIDEMIC OF FAVUS AFFECTING SIMULTANEOUSLY CATTLE AND CHILDREN.—Dr. Gigard reports the occurrence of this epidemic in a village called Nantoin, in the Canton

Cote Saint Andre. Porrigio favosa had existed for several years in the village, but the inhabitants had been heedless of its presence. Many cows were suddenly affected, and at the same time the disease manifested itself among the children. The original culprit, according to the writer, was a calf, which, in a somewhat roundabout way, communicated the disease to the village cows, and hence to the children.—*Lyon Medical*, August 15, 1880.

CHIAN TURPENTINE IN CANCER.—Prof. Clay, of England, recently reported that chian turpentine was endowed with almost specific properties in the treatment of cancer. Investigations by other therapeutists have since failed to establish this claim. Some of the cases in which it has been used have somewhat improved, notably those reported in the *Lancet*, July 3, by Drs. Drury and Stewart, but none have recovered. The most adverse testimony, however, comes from Drs. Lawson, Tait and J. Hickenbotham, of Birmingham, who found it utterly useless in an aggregate of twenty-eight cases.

THE following formula for *mistura filicis maris* is adopted at Guy's Hospital:

R	Ext. filicis liq., . . .	f3i;
	Tinct. quillaia, . . .	f3ss;
	Syr. zingiberis, . . .	f3ss;
	Aq. distillat. ad . . .	f3i.—M.

If some mercury be shaken up in a bottle with tincture of quillaia, the metal is reduced to a very fine state of division. It has much the appearance of hydrarg. cum creta, and examined with a lens, is seen to be composed of distinct globules of mercury.

THE last sweet thing in words—"dyskinesia"—coined by the gynecologists, shows a sad falling off. It is not euphonious enough. It lacks the tinkling mellifluousness of "kolpokleisis" and its twin brother "kolpoecpetasis." We implore the soaring spirits who gave to the world a "hysterotracheloraphy" and a "laparoelytrotomy" not to falter in their good work. Our nomenclature is not simplified enough, nor is the Greek dictionary quite exhausted.—*Western Lancet*.

ANOTHER CARDIAC SEDATIVE.—A new alkaloid, thalictrine obtained from *thalictrum macrocarpum*, a plant of the Lower Pyrenees, has been reported to the Paris Academy

of Sciences. A toxic dose, injected into the veins of a dog, kills in five minutes, death being preceded by convulsions, complete abolition of general sensibility, acceleration of the respiration, weakness of the pulse and vomiting, phenomena quite analogous to that of erythrophleine and digitalin.

BOOK NOTICES.

LINDSAY & BLAKISTON VISITING LIST, FOR 1881. Published by Lindsay & Blakiston, Philadelphia. Price, for 25 patients a week, \$1.00 ; for 50 patients, \$1.25.

We are in receipt of this very popular visiting-list for the coming year. It has now reached its thirtieth year of publication, and continues to maintain the favor it had at the start. Besides containing the usual blank spaces for marking daily visits made, memoranda of obstetric attendance, vaccinations, general memoranda, etc., it contains the metric or French decimal system of weights and measures, posological tables, showing the relations of our present system of apothecaries' weights and measures to that of the metric system, giving doses in both. This is a very valuable addition, as so very many writers, in every department of science, now employ the metric system.

TREATISE ON THERAPEUTICS. Translated by D. F. Lincoln, M. D., from the French of A. Trousseau, Professor of Therapeutics in the Faculty of Medicine of Paris, etc., and H. Pidoux, Member of the Academy of Medicine. Two volumes. Ninth edition, revised and enlarged, with the assistance of Constantine Paul, Professor in the Faculty of Medicine of Paris. Vol. II. 8vo. Pp. 299. New York: Wm. Wood & Co.

We gave quite a full description of this excellent work recently when we noticed the first volume, and to again describe it would be to repeat our former description. It forms the eighth number of Wood's American Medical Library for the present year. The chapters in this volume are devoted to Antiphlogistic Treatment; Evacuants, as Vegetable and Mineral Emetics, Vegetable and Mineral Cathartics; Musculo-Motor Excitants, or Excito-Motors; Narcotics. As we stated before, this is a very valuable addition to the series.

A MANUAL OF MINOR SURGERY AND BANDAGING. By Christopher Heath, F. R. C. S., Surgeon to University College Hospital, London, etc. Sixth Edition. Revised and Enlarged, with 115 Illustrations. Price, \$2.00.

This work has met with very great popularity indeed, having passed through six editions. The design of the work is to afford instruction to house-surgeons and young surgeons generally, in the numerous accidents and emergencies daily coming under their care. There are many operations and manipulations in surgery, classed "Minor," of the utmost importance, which are not described in detail in the larger and more imposing treatises upon surgery. All such, in this little work, receive the attention necessary for their full understanding. We have no doubt the work will continue to receive the patronage it deserves. Every young physician should have a copy previous to commence practicing as a *sine qua non*.

ON THE BILE, JAUNDICE AND BILIOUS DISEASES. By J. Wickham Legg, F. R. C. P., London, Lecturer on Pathological Anatomy. 8vo. Pp. 719. New York: D. Appleton & Co. Cincinnati: R. Clarke & Co.

Surely a finer work on the subjects of which it treats has never been published than the one before us. It treats of the most common, most important, and probably the least understood of the disorders to which human beings are liable. The liver is the largest gland in the body, and how important it is in the animal economy, as pointed out by the author, is shown by its presence in the lowest tribes of animals, and by its early appearance in the embryo. That a very large organ like it, possessing such manifold functions—functions that are in almost constant action—should be exceedingly liable to disorders, and disorders of a most important character, is not at all wonderful.

The work will undoubtedly meet with a cordial reception by general practitioners. It is not a work written for specialists, but a monograph for all physicians, treating of bilious diseases more fully and more in detail than can be done in those Practices that consider all diseases. In its thirty chapters, there is much very valuable information that can be found only in a work by a writer who has been devoting much time and labor in investigating

diseases of the liver and the organs closely related to it.

In the last chapter the author has specially considered the meaning of "bilious diseases," proposing that the word "bilious" should no longer be used as an adjective to diseases. A bilious disorder he defines to be one complicated with the following symptoms: "A bitter taste in the mouth, a yellowness of the tongue, thirst, loss of appetite, nausea or vomiting, constipation or diarrhea; a headache more or less violent, which may sometimes pass even into delirium; a sense of weariness and aching of the limbs. There is no evidence that the disease is accompanied by any increase or decrease, or any change whatever, in the secretion of the bile; and it is only by accident that jaundice is seen; for though jaundice not uncommonly complicates a bilious disorder, yet it is an accidental, and by no means a necessary part of the state.

"It will be seen that the symptoms of an acute bilious disorder are identical with those now commonly attributed to acute gastro-duodenal catarrh; and a proof of the connection of these symptoms with the pathological state of the stomach has, by a fortunate accident, been given by Dr. Beaumont in the case of Alexis St. Martin; and still further marked out by Broussais, so that a bilious disease simply means a disease attended by a gastro-intestinal catarrh."

He wishes it understood that when he uses the word "bilious," a gastric catarrh is always connected.

The publishers have gotten out the work in an unusually handsome style. It is printed on an unusually fine quality of paper, while the type is large and remarkably clear.

EDITORIAL.

PARTIES who advertise will consult their interests by advertising in a well-established journal—not one just commenced, nor one that has lived out its day of usefulness and is kept alive by occasionally buying up the subscription list of a defunct contemporary. It is better to pay a reasonable sum for space in a journal of large *bona fide* circulation than a very small sum in a journal of scarcely any circulation.

THE MEDICAL NEWS is the cheapest medical journal to advertise in of any medical journal in the West—not because it charges less per page, but because it has the largest circulation. Those who advertise in it usually continue their advertisements so long as they continue to advertise in any

journal. In looking over the advertising form it will be observed that not a few of the advertisements have been appearing for years.

We hereby append the post-office law in regard to periodical publications. By noticing it, and keeping it in mind, hard feelings would sometimes be avoided:

UNITED STATES POSTAL LAW.—1. A postmaster is required to give notice *by letter* (re turning a paper does not answer the law) when a subscriber does not take his paper out of the office, and state the reasons for its not being taken. Any neglect to do so makes the postmaster *responsible* to the publishers for payment.

2. Any person who takes a paper from the post-office, whether directed to his name or another, or whether he has subscribed or not, is responsible for the pay.

3. If a person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it until the payment is made, and collect the whole amount, *whether it be taken from the office or not*. There can be no legal discontinuance until the payment is made.

4. If the subscriber orders his paper to be stopped at a certain time, and the publisher continues to send, the subscriber is bound to pay for it *if he takes it out of the post-office*. The law proceeds upon the fact that a man must pay for what he uses.

5. The courts have decided that refusing to take a newspaper and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

NOTICE.—One more issue of the MEDICAL NEWS closes the volume of the year 1880. A number of subscribers are in arrears. We must insist upon their settling up. It costs a great deal of money to publish a medical journal, and those who take one should pay for it. The obligation is as great as it is to pay for any other article made use of. We have no sympathy for a physician, who does not pay for his medical journal, if he fails to receive pay for his services. During the year we have sent a great many bills to parties who have not yet responded. We will propose to send other bills, and hope to hear from all in a very short time.

SISTER ANTHONY.—At present writing, every number of the daily newspapers, for several days, have contained articles in regard to the removal of the lady whose name heads this article, from the superintendency of the *Hospital of the Good Samaritan*, of this city, which position she has filled most satisfactorily to both Catholics and Protestants since its commencement at the close of the late war. Previous to that time, she was in charge of *St. John's Hotel for Invalids*, of which the former institution is the successor. Since the announcement that Sister Anthony was to go to another field of labor out of the city, the greatest surprise has been manifested among all classes, for the Sister is a lady who has endeared herself by her good works with every one—rich and poor, high and humble, particularly with the poor, without dis-

tion of religion. And with surprise no little dissatisfaction exists, with an evident disposition to know the cause of the removal. It is felt that one who has filled a position so entirely to the satisfaction of every one, and has thus proven a capability beyond a doubt, should not be taken away, and another substituted, without great cause; and it is felt that the cause should be made known.

Under the circumstances, it is not to be wondered at that the newspapers have taken up the subject, and every number of each of them has in it something to say in regard to Sister Anthony's removal from her position at the *Good Samaritan Hospital*. A *Commercial* reporter, the other day, called upon the Sister and obtained an interview, but stated that she was very reticent in regard to the causes. He then visited the institution which is to be the future field of her labors, but he was as unsuccessful with the sisters he there met, whom he interviewed, as he had been with Sister Anthony. All his efforts in Catholic quarters to ascertain the causes which had led to the severing of the connection of Sister Anthony with the Hospital which she has been managing so long, and so much to the satisfaction of all, and of which she is really the mother, was without avail. None could give any satisfaction. No one even ventured to advance a conjecture. Foiled in all his efforts to obtain information, the reporter bethought himself of Dr. W. B. Dawson, surgeon on the staff of the Good Samaritan Hospital, and Professor in the Medical College of Ohio. It occurred to him that, as Dr. Dawson is a prominent and influential gentleman of his college and of the hospital staff, he might know something in regard to the causes of the Sister's deposition from the superintendency of the *Good Samaritan*, and would be willing to state them. We regret that we have not before us a copy of the paper containing the report of the interview, for we would like to present the report just as it appears. We can, however, very correctly give the substance of it. The Dr. very justly spoke in very high terms of Sister Anthony's good works, of her long devotion of herself to the relief of the sick and unfortunate, and especially he dwelt upon her labors among the soldiers during the war. He was unsparing in his praises of her life-long work of mercy, and of the sacrifices of herself in carrying it on. As a

hospital surgeon he has seen much of her, working along with her for years, and undoubtedly has an exalted opinion of her as a Christian lady. He is one who would not, under the circumstances, withhold the praise justly due. As to the causes of her removal from the management of the hospital, he said that *she herself had asked for it*. She had become broken down by incessant labor for a long time and wished for rest. *She had asked to be removed, and it had been granted, that she might rest*. But the fact that Sister Anthony is not going to a place of rest, but to another field of labor, seems inconsistent with this statement. At any rate the public are not satisfied with it, and the discussion concerning the removal goes on. The *Catholic Telegraph*, in its last issue, has a lengthy editorial devoted to the subject in which it speaks all around it, but affords no light. The nearest it approaches it is in stating that Sister Anthony's superiors in their council have seen fit to do so. We quote: "Suffice it to say that there is not the slightest truth in the report that the good Sister is removed for any fault, breach of discipline, act of disobedience, or, in fact, for any reason whatever, save that the community to which she belongs have seen fit to remove her, with the sanction of their ecclesiastic superiors. Sister Anthony, with the true humility and obedient spirit of one thoroughly good and religious, bows to the decree."

Now, it occurs to us, that, after reading such a statement, we must look further than the explanation of Dr. Dawson if we wish to discover the "true inwardness" of the cause of Sister Anthony's removal from her position at the Good Samaritan. If it were that she herself had asked to be removed, because she wanted rest after so many years of toil, it would be accepted as most satisfactory. However much her many friends would be grieved and would lament the severance of her connection with the Hospital, yet they would feel that she had a right to ask to be relieved from her place and seek rest, and would acquiesce without a word. It would not be necessary for the *Catholic Telegraph*, whose editor knows all about the causes, to write a very lengthy article, in which nothing is said, about it. All that he would have to do would be to mention the fact, and all disappointment and dissatisfaction would be at once suppressed in the earnest desire to serve her.

We are of the opinion that if the reporters would direct their efforts to another quarter that something satisfactory in regard to Sister Anthony's removal might be learned. In fact, it is astonishing to us that the quarter to which we allude has been so entirely overlooked. It is strange that days should elapse and it not occur to any one. We mean the *Faculty of the Medical College of Ohio*. We are confident that if the gentlemen composing it could be placed under such circumstances that, if "interviewed," the truth had to come, the whole subject of the removal would be made so lucid that it would not be necessary to write further editorials upon it. It would be made as "bright as the noonday sun."

Although known in this city, yet it is probably not generally known outside, that the Medical College of Ohio has had a complete monopoly of the *Hospital of the Good Samaritan*. Its Faculty compose its staff, and its students alone are afforded clinical instruction within its walls. To maintain this complete monopoly has not been without many difficulties. Especially has it been most onerous with a lady of the intellectual ability and executive capacity at the head of the institution as Sister Anthony. There has not been able to be any "fooling." To convince such an individual that the members of the Faculty, however able they might truly be, embodied the medical learning and wisdom of the profession of the city has been no easy task, and, in proportion, there has been a lack of so convincing, in that proportion, it has been necessary to present other reasons why it was best that they should be preserved in their monopoly. For a number of years, although every effort has been made to suppress it, we have heard of murmurings and discontents. Now and then an outside physician would receive an appointment by the Sister as a visiting physician, as, for instance, Dr. Fred. Anderson, Dr. Tate, Dr. Buckner, but he would be prevented from lecturing by the Ohio Faculty; and then, becoming disgusted, he would resign, or, may be, discharged.

But it is unnecessary to go into details. Suffice it to say that we feel very sure that the cause of Sister Anthony's removal will be found in the Faculty of the Medical College of Ohio. She has been laboring exclusively for the interests of the Hospital of which she has been having charge, and, in doing that, she has been laboring

for the welfare of the poor and the sick. On the other hand, the Faculty of the College have been anxious for their college—they have desired to build it up and maintain it at the head of the medical colleges of the city. In doing this, Sister Anthony has, at times, been in their way, and caused them a great deal of inconvenience. So tiresome has this constant strain upon their exertions become, they have finally gotten her removed.

THE RICH VS. THE POOR.—Quite recently a manufacturing establishment of this city was burned, and several old women, who were employed in it, fell victims to the flames. All of them were very poor, and had not only themselves to support, but had others depending upon them. To one a crippled and consumptive husband looked for bread; another had a blind daughter to share her earnings. The pittance they earned, from day to day, was scarcely enough to prevent them from suffering the pangs of hunger, and enable them to keep clad in some rags. After the terrible tragedy, the workmen, in a near manufactory, raised a purse of \$40 for the benefit of the families of those whose support had been cut off. Besides this small amount all we heard of being contributed for the bereaved, was \$50, sent by some humane man, residing in a distant town, to the editor of the *Commercial*. What will become now of the poor crippled husband and the poor blind girl and the other helpless beings? No doubt many will be ready to exclaim, that in a city containing so many men of wealth as Cincinnati, there will be no danger but that they will be well provided for. Are there not many men, it will be said, in it who have given thousands of dollars for public purposes—sums ranging from a thousand dollars to a quarter of a million? Yes, that is true, and yet the most piteous case of poverty will go unrelieved. Hundreds of poor women and children, broken down in health, will struggle along, from day to day, scarcely able to procure sufficient to provide for their most common wants, oftener than not suffering the pangs of hunger, and no one will give the slightest aid. Such phenomena, if we may so term them, are interesting to the physician—phenomena as the profuse bestowing of wealth to advance culture, refinement, and a higher taste upon classes that have sufficient means and time to give them attention, and yet will scarcely give a dollar to relieve suffering want. Every-

thing pertaining to the human being is of interest to the physician, for he has not only to do with men's bodies, but their mental and moral nature—to study their actions and analyze their motive forces, explaining what calls forth their conduct. Every day the medical man is called upon to give evidence as to men's purposes in their behavior, and what may be normal or abnormal in what they do in considering a healthily constituted mind.

To bestow wealth freely for purposes that tend to cultivate the masses, and afford them pleasure, as the building of a great Music Hall, or erecting an Art Hall, is laudable and confers a benefit. The act is a liberal one, and in that respect is the same as the giving of money to buy bread for a starving person. In one case, however, the benefit is extended to many hundreds, in the other it is limited to a fewer number, but more felt. But as regards actual benefits, directly and indirectly, near and distant, it is impossible to compare them.

It is a law in mental philosophy that the intellect proper never produces an action in an individual, but that the emotive forces or feelings must be first excited. A man may have an idea of suffering, but unless some emotion of some kind follows, he will never put forth an effort to relieve it. The emotions that do this are many. Pity for the suffering may move to aid, or self-interest, sense of duty arising from religious training or moral constitution, love of applause, fear under some circumstances, etc.—any one of these alone, or a number acting together, may bring about a charitable act.

But we have said as much on this interesting subject at this time as we have space in our editorial pages. We propose to take it up again, for it is important to understand how it is, in a great city, that thousands of dollars will be willingly and liberally poured out for a certain class of charitable objects, while hundreds of poor human beings are permitted to suffer for bread.

CHAPTER OF MEDICAL COLLEGES.—This is the title which the *Medical and Surgical Reporter* gives to a board of physicians which it desires to have appointed to examine candidates for the degree of Doctor of Medicine, instead of the faculty of the college at which they have attended for instruction. We are pleased to have others to advocate a plan that a very long time ago occurred to us as

the only proper one, and which we have been urging. Until something of this kind is adopted in this country, the possession of a diploma will not be a guarantee of qualifications on the part of the holder. How is it with our medical colleges? Only a very few of them are public, endowed institutions. They are private affairs, owned by the members of the faculty. Or, if not precisely owned by them, they are supported exclusively by students' fees, so far as these go; and the gentlemen of the faculty are responsible for any deficiency in the income from this way to meet expenses, if there should be any. There is, of course, a board of trustees to fulfill the requirements of the law, and who ostensibly hold the charter; but it is an irresponsible body, and has nothing to do with the monetary affairs.

All medical colleges require candidates for graduation to deposit with the dean or treasurer of the faculty the sum of twenty-five dollars (in some colleges it is thirty dollars), called the graduation fee, previous to their examination. In case a candidate should not be regarded qualified to be numbered among the alumni, it is stipulated that the money will be returned. Really, if the candidate was not required to pay the amount for graduation, under the circumstances it would be a bribe on his part to be graduated. Very poorly qualified, indeed, must he be if he does not pass. From half a dozen to a dozen men have been laboring hard for a period of five months at lecturing—neglecting their business more or less and making other sacrifices. Will it not be adding to their sacrifices to be under the necessity to take twenty-five or thirty dollars out of their treasury, largely depleted by necessary expenses, and with many expenses yet to meet, to repay to an individual whose examination for a diploma has not been satisfactory? Will there not oftentimes be a strong temptation to hold on to the money, and grant the sheepskin with the hope that the fellow has only been a little dilatory, and will improve? Yes, there will frequently be such temptations. We have known them often to occur; and our observations have extended so far that we know that hundreds of such instances happen every year. When twenty-five dollars, or any sum of money, is to be sacrificed in case a diploma is not granted to a candidate, the consideration of his qualifications can not be regarded as impartial. If not a

conscious, there will frequently be an unconscious, influence exercised.

But why should a candidate for graduation be compelled to pay any sum to be graduated, if he be qualified? It is certainly an extortion. If a student has studied a due length of time, has fulfilled the usual curriculum, paid his tuition fees, and passes, or is able to pass, a satisfactory examination, a diploma is his right; and it would be a miserable injustice to withhold it from him unless he pays what may be to him a large sum of money for it. According to the laws of many States, those who now propose to begin the practice of medicine must have graduated. Would not a young man have a great wrong inflicted upon him, who, having fulfilled all the requirements of a college, and is well versed in the learning of the profession, is prevented from commencing to practice because he has not the means to pay the sum demanded for the conferring of the degree of M. D.? Does not one's sense of right cause one to feel that he is entitled to graduation, and should receive it? Probably, under the circumstances, it would be conferred gratuitously; but a person should not be humiliated by being a recipient of a gratuity for that which, by every principle of right, belongs to him.

But a college faculty frequently has another more powerful motive to graduate an incompetent person than being paid a sum for it. A candidate for graduation, who is lacking in qualifications, sometimes is able to exert an influence either beneficial or detrimental to the college, according as it may or may not possess his good-will. An institution depending exclusively for its support on fees collected from students must cater for patronage. It must, as far as possible, avoid giving offense. Every graduate sent out it is supposed will become a patron. He is likely to have more or less students whom he can send to whatever school he feels friendly toward; and the poorest qualified practitioner generally has the most students studying with him. Such usually encourage all they can, without regard to attainments or fitness of any kind, to study medicine, and consequently control no little patronage. Gentlemen "*running*" a medical college can not afford to offend such individuals, or those whom experience makes it probable will be of that class.

A board of educated physicians, forming a "Chapter,"

selected for their learning, soundness of judgment, high character, disposition to do fairly, not connected with any medical college directly or indirectly, or engaged at all in teaching, would be far more competent to examine candidates for the degree of M. D. than the faculty of any medical college could possibly be. They would not be liable to improper influences of any kind. They would be affected only by consideration of the good of the profession and the community; and a diploma proceeding from them would be a guarantee of qualifications. The degree of M. D. bestowed by them would be a real honor of which the possessor might be permitted to feel proud. In whatever State such a chapter existed, created either in consequence of some legal enactment, or by agreement of the medical schools themselves, all candidates for graduation would appear before it to decide upon their qualifications, and consequently the faculties would be relieved of this duty. They would be concerned in teaching alone; and as there would necessarily spring up among the schools a great incitement to prepare the best qualified candidates for graduation, each college being zealous for the honor of having the smallest per cent. of rejections of candidates of any of the others, a most favorable effect would be exerted upon the several schools. The greatest care would be used in selecting the best teachers, and adopting the best modes of instruction. Means of illustration would be increased, and in every respect possible the college would be improved.

LONG ISLAND COLLEGE HOSPITAL.—The object in the organization of this school was the uniting a hospital and a medical school. The founders consider that they have succeeded in this beyond what any other school has having a similar object. The Faculty claim that "they have made clinical teaching a *reality* in the only possible way in which it can be of practical value to the student, viz.: by cultivating his faculties of observation at the *bedside*. Mere amphitheater teaching must, from the very nature of clinical study, fail to accomplish work that can only be done in the wards of a hospital."

That amphitheater teaching can not fulfill purposes that can only be fulfilled in the wards, is so evident that it requires no argument to prove. Real clinical teaching can only be done alongside of the bed, where the student can

observe objective symptoms pointed out to him, and, to some extent, examine himself. When he sits in an amphitheater at a distance from a patient that has been brought in on a bed, and sees scarcely more than a heap of bed clothes, and knows only in regard to the pulse, temperature, condition of tongue, expression of countenance, respiration, etc., as he is informed by the clinician, it is folly to say that he has any advantage of clinical instruction. Although given within the walls of a hospital, the teaching is but didactic, the same as he receives while sitting on the benches or chairs of the college lecture-room. The place in which instruction is given does not give it its character. To learn to detect symptoms, to obtain skill in manipulating, to be able to analyze, compare, deduce and form a diagnosis from indications presented, the student must have facilities to exercise his own five senses and his own logical powers, directed, of course, by the instructor. If such opportunities are not afforded him, he is like an apprentice at a mechanical trade, who is endeavoring to acquire it by oral instruction alone.

A great drawback to the instruction given in the Cincinnati Hospital, of Cincinnati, is that the rules of the institution make it really nothing but didactic. The medical student who purchases a ticket for five dollars can only enter the lecture-room, where, with several hundred others, he will only have an opportunity of obtaining a back seat. From this point of observation, he is supposed to receive clinical instruction; and, from the fact that the lectures heard are by members of the hospital staff, and are delivered within the walls of a hospital, he is probably disposed to think so himself. It is, however, an egregious mistake. There is not a single element of clinical instruction in it. There is no opportunity given whatever for a student to exercise his own powers. Of the dozen different characteristics of the pulse, his sense of touch is never brought in contact with any. He is not permitted to put his ear to a patient's chest when a certain dry rale or moist rale or a ronchus of any kind can be heard. He is told such and such sounds are to be heard in the chest of a patient whose bed he sees within the railing, many yards away from him, and that they indicate certain lesions, but this latter information he had already learned from his didactic instructor or his book.

If it was not for the fact of his deceiving himself, he would know that a manikin, dressed up and placed in a bed, would answer every purpose of clinical instruction in a hospital where the patient is only seen at a great distance, or not seen at all, by the student. Under such circumstances the same patient will answer the purpose to illustrate a case of typhoid fever, pneumonia, peritonitis, etc. For, as regards the symptoms, the so-called clinician can state them to suit himself. He can state that certain ones are present or not present as suits him to make out the case, or he can leave them unmentioned. The student has no opportunity of ascertaining anything himself.

But to return to the Long Island College Hospital. The hospital is under the immediate control of the regents and council of the college, and is, therefore, available at all times for practical instruction.

The courses of instruction are given in the hospital building, so that the student, without loss of time, is brought in direct contact with the patients.

For the purpose of carrying out more fully the objects of clinical instruction, and thereby perfecting the system of *demonstrative* teaching, the Faculty have adopted the plan of dividing the senior class into sections of ten or more, who accompany the clinical teacher in his daily hospital service; and by this plan of constant rotation of classes from the medical to the surgical wards of the hospital, they believe that the student receives the largest possible amount of instruction daily in all the practical branches. This mode of teaching, it is claimed, is peculiar to the Long Island College Hospital. The Faculty also adhere to daily class examinations, having found, by experience, that the plan of constant class-room drill encourages exact knowledge and habits of close attention; while in its practical results it is superior to the system of lectures alone.

We have thus made the *Long Island College Hospital* the subject of an editorial not at all for the purpose of advertising it, for we have no acquaintance with any gentlemen connected with it, and they have never been patrons of our advertising pages, but to exhibit to our readers what we regard as a model mode of imparting clinical instruction. We of Cincinnati have been desirous for some years of making our city a great center of

medical education, but, before that can be done, there must be a great deal of reformation in the system of education. There is certainly no educational institution so much in need of reform as the Cincinnati Hospital. Not only does its system of imparting instruction need reform, but also its trustees and staff. No hospital can have a high standing when members of its staff are appointed in consequence of their religious standing. Religion makes better men and better women, and highly adorns a physician, but to make an appointment for the reason that the candidate holds a high position in the religious community, tends to degrade both religion and the hospital.

THE MIAMI VALLEY MEDICAL SOCIETY.—This Society held its semi-annual meeting at Loveland, O., November 9. We were not present ourselves, but have gathered a few items of information, which we present to our readers. It is composed of physicians residing in Hamilton, Clermont, Warren, Clinton, Butler and Highland Counties, and numbers many prominent practitioners on its rolls. The Society was called to order at a quarter past 10 o'clock A. M. by President Dr. E. J. Tichenor, of Lebanon, and, in the absence of Dr. E. B. Stevens, the Secretary, Dr. L. W. Bishop was appointed Secretary *pro tem.*, after which a number of candidates were examined by a committee and admitted to membership.

Dr. W. A. Carmichael, of Loveland, read a very lengthy and extremely interesting paper on "Malarial Fever." After which a general discussion on the subject ensued, in which Drs. Russ, of Hillsboro; Pampell, of Cozaddale; Morris, of Goshen; Trimble, of New Vienna; Thacker, of Goshen, and Sidwell, of Wilmington, took part.

At this point in the proceedings the west-bound train brought Secretary Dr. Stevens and quite a number of members of the Society from Lebanon, Morrow and other points.

Dr. Drake spoke of the use of calomel to stir up the liver. He referred to old-time treatment in comparison with to-day.

Dr. Morris, of Goshen, introduced to the notice of the Society a patient, a Miss Conover, of Cozaddale, eleven years of age, who was suffering from necrosis of a bone, the injury having come from a fall from a fence. The universal verdict, after a careful examination of the case,

was that the child should be operated upon and the diseased bone removed.

The minutes of the previous meeting were now read and the Society adjourned for dinner.

The afternoon session commenced at 1 o'clock, and was opened by Dr. R. T. Trimble with a paper, entitled "Is Typho-Malarial Fever a Disease *per se*?"

It was pronounced a very able paper, and was highly complimented by his brother physicians. Dr. Hixon, of Iowa, and Dr. Hunt, of Kentucky, were called upon to make remarks. These gentlemen were old-timers, and treated the Society to a few brief remarks.

Dr. Frank H. Darby, of Morrow, contributed a paper on opium, giving some very remarkable statistics from different sources.

ELECTRIC LIGHTING.—Very great progress is being made in electric lighting. It would be quite impossible to give all the details. Recently they have begun to light the great Royal Albert Docks, on the Thames, just below London, by electric lights. These docks are an extension of the Victoria Docks, and consists of an extensive lock, 700 feet long, opening into a tide basin of 12 acres, which in turn opens into the main basin, 6,500 feet long, 500 feet wide, and covering 72 acres. There are also two graving docks, 410 and 500 feet long, respectively. The whole of this area, about a mile and three-quarters in length, is now lighted by twenty-six Siemen's lamps. Steam-engines of twenty horse-power each are stationed at four points for driving the Siemen's machines that generate the electricity; and from these stations the current is conveyed by wires, partly on poles and partly underground, to the lamps, which are placed on iron standards eighty feet high. On the first night of the trial of the lights, one of the large steamers of the Orient line was successfully docked, and the luggage of the passengers was examined. The directors were satisfied with the result, and are confident that the heavy outlay for lighting the vast area will prove a judicious investment. A London contemporary says:

Though gas may continue to be for some years yet a much-valued public servant, no one will venture to deny that the electric light has a great future before it. Some parts of London have recently had the benefit of being lighted by the new illuminator, the satisfaction given being in all

cases perfect. When such business men as constitute the Board of the London and St. Katharine Docks Company enter into contracts for having their docks lighted by electricity, caviling at details appears out of place. The practical persons who witnessed the display of the electric light in the Albert Docks on Monday last must have come away with the impression, if they have not been able to make up their minds on the matter before, that the new light will ultimately replace gas.

MIASMATIC INFLUENCES.—We understand that Dr. Tefft, of Missouri, recently wrote a paper on "Foul Air," in which he cited many facts to show that the inhalation of foul air does not necessarily and uniformly produce disease. In a subsequent paper he explains his views more at length. He claims not to be a champion of filth, nor an opponent of sanitary reform, but simply wishes it understood precisely when and why filth is the indirect, though not the direct, cause of disease, as the following abstract of his paper will show:

(1.) By civic miasm is meant the emanations from vegetable and animal substances in a state of decomposition; human and animal excrements, solid or fluid; human and animal exhalations; in short, it is the result of the whole combination of abominations generally termed filth.

(2.) The noxious influence of this miasm depends mainly upon the chemical gaseous products of organic decomposition, which (some of them) doubtless exercise a powerful depressing effect upon all the organic functions, and thus constitute a predisposing cause of any morbid process or disease to which the organism is otherwise liable.

(3.) Civic miasm is a favorable nidus for the development, growth, multiplication and preservation of *specific* miasmata, and is a convenient medium for their diffusion.

(4.) Civic miasm does not itself cause specific zymotic diseases. Filth and bad smells alone may be in the highest degree noxious, or they may be innocent of acting as morbid agents. It depends upon the character of the chemical results. In no case does filth or civic miasm alone act as a *specific* ferment.

(5.) Specific zymotic diseases require for their production specific causes, specific ferments, specific organisms, in short, specific miasmata.

(6.) The favorite habitat of such specific miasmata is furnished by filth, but filth does not generate them. The seed must be first sown.

(7.) During the prevalence of specific zymotic diseases, those people who live amid filth, or are the most exposed to its influence, will soonest and in the largest numbers succumb, from the simple fact that with them is found the best means for the propagation of the poison, and the best means for its diffusion.

(8.) In the absence of the specific causes of zymotic diseases, those living amid filth may be as healthy as any others. Hence the broad statement of Simon that "filth makes disease" is not true as to specific zymotic diseases.

(9.) Those qualities or accompaniments of air and water which produce zymotic diseases are not recognizable by the senses. Hence it is not to be assumed that apparently pure air and water are actually so.

(10.) Aside from moral reasons, filth is, then, to be abhorred because:

(a.) The chemical gaseous products thereof are generally depressing upon the organic functions, and hence act as predisposing causes of disease.

(b.) It arrests, absorbs and retains *specific* ferments.

(c.) It is the best possible situation for their propagation and multiplication.

(d.) It furnishes the means for their diffusion.

(e.) It renders the starving out or stamping out of such diseases difficult or impossible.

(11) The nature of specific miasmata is not known, and is yet to be studied, as is also their behavior, which seems often to be irregular and unexpected.

(12) In studying their nature, the first step, or one of the first steps, is to discriminate between the specific agents themselves and their frequent or usual concomitants.

KITCHEN GARBAGE DISPOSAL.—A correspondent of the *Sanitarian* recommends the burning of all garbage on the premises instead of having it hauled away. The reasons given are exceedingly plausible. He shows that it can be done very easily without producing any nuisance whatever. He says that throwing potato peelings, turnip tops and the refuse of the table immediately into the kitchen fire, they will be burned up right away, without giving out into the house any offensive odors, and by this means they will be easily gotten rid of, and no harm done. If placed into a vessel to await the garbage man, they immediately commence to decompose, exhaling poisonous gases all around. The vessels themselves, too, become saturated with fermenting material, and are things of filth and unwholesomeness. If the gases that are generated constantly by the burning of coal fires in ranges and stoves are all carried off harmless and unperceived, as they are by the chimney, the less penetrating and less powerful gases from the burning of the kitchen refuse will be carried off harmless and unperceived.

Unburned, as is usually the case, he says, this garbage furnishes the *vile leaven* that poisons the streets and fills the air with pestilence, supplying the pabulum of diphtheria and fevers the most malignant and deadly, not only in the streets, but in the houses, and whole hecatombs of children are slain by the unseen foe that enters our dwellings in the filthy garbage-box. •

KEY WEST AND YELLOW FEVER.—Near 200 cases of yellow fever occurred at Key West, Florida, during the last summer; but when its sanitary condition is considered, it is a great wonder that many more did not take place. Key West, as described by Dr. S. D. Kennedy, is situated on an island of the same name, which is about seven miles

long and one and a half wide. Its elevation is twelve feet above the sea level, and has a population of about 14,000. It is unpaved, and but imperfectly drained by ditches. These are, with but few exceptions, uncovered. Owing to the fact that the soil in which they are dug is very porous, and there being but little movement in them, their fluid contents are rapidly absorbed, a very small proportion being carried away, except in very hard rains. There is always a large amount of decomposing organic matter scattered about the city, which depends for its removal on the system of drainage mentioned.

It is surprising to us that people living in this civilized and enlightened age are willing to live amidst such filth, which is constantly spreading its poisonous emanations everywhere around; and if the whole population does not fall victims during the course of a season, it is because nature has generously provided that individuals may sometimes live, under certain circumstances, in spite of themselves. Although not stated in the report, we feel warranted in believing that the drinking water is exposed to become contaminated from neighboring privy-vaults and surface drainage. It has recently been discovered, in Cincinnati, that cisterns in certain parts, not supplied with hydrants, have been producing sickness by drainage into them from privy-vaults. The analysis of the water from them developed unmistakable signs of the contamination. There can be no doubt that water in cisterns, near habitations where there are privy-vaults all around, and the surface of the ground is necessarily covered with organic matter of every kind, is not fit for potable and culinary purposes. In towns and cities water distributed through suitable pipes is only healthy for use. In addition to a water supply of such kind, we think that privy-vaults should be dispensed with altogether, every house having its water-closet, etc., connected with a deep sewer under the street. Water-closets inside of the house, connected with a covered vault in the cellar, have proven most disastrous in results, on the covering becoming imperfect and permitting poisonous gases to disseminate throughout the house. But when the connection is with a deep street sewer, there can not be the slightest danger with the improved means of plumbing used nowadays.

But we did not intend to write a paper at the present on drainage in general. The report upon yellow fever in

Key West, published in a recent number of the *Bulletin of the National Board of Health*, in which a brief outline of the condition of its *ditches*, streets, etc., was given, presented such a picture of utter carelessness in regard to all sanitary measures, that we felt like calling attention to it. And yet we do not suppose it is alone in this respect. In another place we have something to say in regard to the burning of garbage, written before having seen the *Bulletin's* article.

DR. E. SEGUIN, of New York, died on the 28th ult., aged sixty-eight years. Although Dr. Seguin was intelligently informed on all medical matters, and although he interested himself specially at times in medical thermometry, the metric system, and other subjects, his claim to permanent remembrance will lie in the work he did for the education of idiots. He was the first to introduce a system of intelligent training for these unfortunates, based upon thorough knowledge of their physiological and anatomical peculiarities. The problem which, at the very first, he set before himself, was to develop to its utmost the scant nervous centers of the idiot. To this problem he brought an unflagging enthusiasm, constant industry, a well-stored and original mind; and his work resulted in the wide establishment of a system of educational training which will remain a perpetual monument to him. By an enthusiasm that could not be dampened either by lack of sympathy or the approach of old age; by an originality which could conceive, and an ability which could create a new and beneficent educational system, Dr. Seguin has won a name which will not be forgotten.

MARRIED, October 5th, at Covington, Ky., by Rev. B. F. Bristow, J. C. Wintermute, M. D., to Miss Mary E. Darrah, daughter of Prof. Darrah.

The pair have our best wishes in uniting their fortunes to travel through life together. We trust they will experience much happiness. They will have to meet some sorrow, but they will, no doubt, meet it bravely. The doctor is a worthy man and a good physician—two great elements of success.

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ORIGINAL CONTRIBUTIONS.

Can a Physician Recommend a Person with a Perforated Membrana Tympani to a Life Insurance Company?

BY W. R. AMICK, M.D., CINCINNATI, O.

THERE are quite a number of people in this world, with a few physicians included, who advocate the doctrine that if a person has a discharge from the ear, it should not be disturbed. The people have a vague idea, in cases of this kind, that if the discharge is stopped, the individual would become a subject for any or all of the various diseases incident to humanity. Should a person have a chronic otorrhœa, and should it be cured by proper treatment, and a week or two subsequently he should have pneumonia, the knowing ones would say, I told you so; I knew all the time that it would never do to stop that discharge from the ear. There are a few physicians who tell their patients with otorrhœa, that it is best to let it alone and leave it to nature. They say that in the system there is effete material which contains a virus that is not only detrimental to the system, but has a toxic effect upon the blood. This virus must be eliminated, and nature, the great physician, recognizing this fact, provides the way and opens up a passage through the membrana tympani, and carries off this material in the shape of an otorrhœa. When the system has been thoroughly renovated, and all of the poisonous material that is in the blood has been removed, then nature will again come to the rescue, stop the discharge and heal the perforation. This is a very

beautiful theory, and one that is calculated to deceive. It is not very difficult to convince a person with otorrhœa, that it would be extremely improper to check the discharge, if you reason like the above, or as follows: My friend, I know that it is very unpleasant to have a discharge from the ear, and no doubt you would like to have it checked, but you have never studied medicine, and you do not understand the *modus operandi* of a disease that produces pus. It is very evident that the pus is in there, or else it could not come out; and, if in there, it should be allowed to escape. If I should stop it from discharging from the ear, it would seek some other outlet, and probably be productive of graver results.

The above may sound tenable, but the fault lies in one of the premises which will not bear analyzing. The statement that the pus is in the ear and should be allowed to escape, is correct in one sense of the term, and incorrect in another. It leads a person not acquainted with the nature of the disease to imagine that there is an abscess or cavity located somewhere at the internal extremity of the canal; that this cavity is filled with pus; that the perforation spoken of is the outlet, and that when all of the pus has escaped from the cavity, that nature will assert her influence and close the perforation, as well as the cavity. Theoretically this sounds very well, and to the uneducated apparently explains the nature of the disease in a very satisfactory manner. But we will examine it a little more closely. Sometimes we see a person who has had an otorrhœa for ten or fifteen years, the discharge being continuous. How large would the cavity have to be to contain that amount of pus? Not in the ear, for it is not large enough. Certainly not in the brain, for death would soon claim the victim. Then, as we can not find a place to locate the cavity, we must explain the cause of the discharge in some other way. In order for us to have a proper understanding of the cause, it will be necessary for us to look at the anatomy of this part of the organ.

The ear, for convenience in describing and studying its various organs, is divided into three parts—the external, middle and internal. The topography is such that the divisions are easily defined. As otorrhœas generally arise from the middle ear or cavity of the tympanum, it will be sufficient for our purpose to give an outline of that

portion of the organ. The tympanum is a cavity about twelve millimeters high, the same in width, and about three millimeters deep. The external wall is formed chiefly by the membrana tympani, or drum-head. The floor is simply a depression or groove between the external and internal walls. The anterior wall is occupied mainly with the the tympanic orifice of the eustachian tube. The internal wall is composed of bone, which divides the cavity of the tympanum from the internal or nervous portion of the ear. In this wall there are two fenestræ—the oval and the round. Into the former we have inserted the base of the stapes, which is the most internal of the little chain of bones that extend from the drum-head to this point. The round window is closed with a membrane. In the posterior wall we have the opening into the mastoid antrum of the temporal bone. The roof is formed by a thin septum of bone, which separates this cavity from the meninges of the brain. In some cases this bony septum is absent, leaving only a membranous separation. The various portions of the cavity of the tympanum are lined with mucous membrane, which is continuous through the eustachian tube with the nose and throat, and through the antrum mastoidum with the mastoid cells. This description, which is simply an outline, and does not enter into the minutiae, is sufficient for our purpose. It shows that, between the tympanum and the brain, there is but a thin partition of bone, covered with mucous membrane upon one side, and the dura mater upon the other. In some instances we have a dehiscence, then there is only a membranous separation. Cases of this kind are very liable to brain trouble when there is tympanal inflammation.

Before we proceed further we will ask, What is a life insurance company? It is a number of individuals each of whom pay an entrance fee to enable the association to obtain enough members to defray the expenses of said organization, or, an association of capitalists, the object being, that a person, by paying a small amount occasionally during the course of life, will be entitled to the benefit of said association, which is that at death their family will receive a certain stipulated sum of money, depending on the amount for which the life was insured. There are certain dues that have to be paid, the principal one being the assessment on losses. The great desideratum of a

company is to be able to show a low mortality rate. This is of itself a recommendation which makes a favorable impression on the general public. To have a low mortality rate, it is necessary to insure healthy individuals. To accomplish this, the company employs physicians, whose duties are to examine the candidates that have been solicited by the agents, and ascertain by a subjective, objective, and physical examination whether the various organs are in a normal condition. After the examination, the physician is required to answer a question somewhat similar to the following: Do you consider the life of this person safely assurable, and do you recommend this company to issue a certificate?

We have seen that the mucous membrane of the tympanum is not exposed directly to the atmosphere. The cavity is ventilated through the eustachian tube, and consequently there is not much variation in the temperature of the air when it enters it. This is a provision of nature to protect the delicate structures in this cavity. But from some cause suppose there is a perforation of the membrana tympani. Then the mucous membrane is exposed directly to cold and draught, and the vicissitudes of the atmosphere. As this delicate structure is not able to withstand the sudden changes thus produced, inflammation is the natural result. Mucous membranes are liable to be affected by sudden changes in temperature, but none more so than that which lines the cavity of the tympanum when exposed by a perforated drum-head.

It may be said that people have been known to live for years with a perforation in the membrana tympani, and no unpleasant or grave results follow. That may be true. People have been known to live for years with a fractured skull, and a portion of the brain removed, and also with organic heart disease. Yet you would not be willing to say that their lease on life was as good as the person whose organs were normal in every respect. Damocles lived, notwithstanding the fact that a sword was suspended over his head by a single hair; but when he discovered it, he could not enjoy the sumptuous feast that was spread before him, for fear that the hair would part, which, in this case, would have been instant death. A person with a perforated drum-head may, and many do, escape, as did Damocles; *but the sword is suspended, and the hair may break.* Would it not be better, at least safer, not to

undertake the experiment, but try and remedy the defect? In the capacity of a physician, could you say to a life insurance company, this man has a perforated drum-head, which at present is not giving him any trouble. It is true, he *may* have an inflammation of the mucous membrane of the tympanum at any time, which might be productive of serious results, but I recommend him as a fit subject for a certificate. Don't you think that the company would incline to the opinion that the conclusion thus drawn would be incompatible with the premises? I think from the above statements they would be very apt to call the risk hazardous.

Suppose a person has a perforation in the membrana tympani, and suppose the action of the atmosphere should irritate and cause an inflammation of the mucous membrane, wherein lies the danger? As we have already stated, the roof of this cavity consists of a thin septum of bone, which lies in juxtaposition with the membranes of the brain upon one side, and the mucous membrane of the tympanum on the other. An inflammation of the latter membrane may continue until it destroys or perforates this septum, and then produce meningitis or cerebral abscess with fatal results; or, the inflammation may extend to the mastoid cells and then destroy the septum, the latter being more prolific of cerebral trouble. In some cases, this inflammatory action may continue for months and years without producing anything more than an annoying otorrhœa. The formation of pus is due to a modification and proliferation of the cellular elements, the amount produced being dependent upon the vascular supply and the degree of stasis. As fast as this proliferation takes place, it is thrown off in the shape of an otorrhœa. This corrects the false premise referred to in the first part of this article. This process may continue indefinitely, progressing no further than a chronic otorrhœa, and the patient finally be carried off by intercurrent trouble after the lapse of years.

Again, after the lapse of years, the septum may be destroyed, the disease extend to the brain, and in a few days or weeks death will claim the victim. In those cases where there is a dehiscence of the septum, the cerebral trouble becomes manifest almost from the commencement of the inflammatory process, the disease extending rapidly from the tympanum to the meninges.

A person with a perforated membrana tympani does not know what the future may develop. He is liable to have an inflammation spring up, and when it has once made its appearance, in the language of Wilde, "*we can never tell how, when or where it will end, or what it may lead to.*"

Fortunately the number of cases that terminate fatally are small, compared with the whole number of cases, but we are unable to differentiate in advance of the disease; *i. e.*, we can not say positively that a person with a perforated membrana tympani, with or without an otorrhœa, will escape without any of the severer complications.

For a corroboration of the statements that we have made, we will quote the first four of a series of cases tabulated by Toynbee:

CASE I.—Age of patient, forty-two years. Duration of discharge, thirty-five years. Duration of acute symptoms causing death—pain in the head, ending in coma—five days. *Post-mortem* examination: Pus in the tympanum and labyrinth, and around the medulla oblongata.

CASE II.—Age, seventeen years. Duration of discharge, twelve years. Acute symptoms, pain in the head and ear; death in twenty-two days. *Post-mortem*: Pus in the tympanum and labyrinth; auditory nerve of a dark color; purulent matter deposited on the medulla oblongata, crura cerebri and pons varolii.

CASE III.—Age, forty-four years. Duration of discharge, twenty-four years. Acute symptoms, paralysis of the portio dura nerve a few days before death. *Post-mortem*: Dura mater covering the upper wall of the tympanum, thick and ulcerated; bone carious; mucous membrane of tympanum ulcerated.

CASE IV.—Age, twenty-one years. Duration of discharge, occasionally for fourteen years. Acute symptoms, violent pain in the ear and head; pain in the back and body; curvature of the neck backward; delirium, five weeks; death. *Post-mortem*: Tympanic cavity full of pus; a large abscess in right middle cerebral lobe.

In conclusion, I would simply say, that in this, as in any other case where there is a sufficient amount of proof that can not be gainsaid, the verdict must be in accordance with the evidence. If a person is as safe with as without a perforation in the drum-head, then it is a mat-

ter of little importance. But if it engenders a risk, then the subject is not only entitled to a statement, but to a thorough investigation and examination.

Hog Cholera.

Prepared for the MEDICAL NEWS.

At the last meeting of the Michigan State Board of Health, Dr. H.B. Baker, Secretary of the Board, was directed to investigate the hog cholera now prevailing in the southwestern part of the State, and to find, if possible, any relation between that disease and any sickness in the human family. In pursuance of that order, Dr. Baker visited Vicksburg in Kalamazoo county, Mendon and Wasepi, and their vicinities in St. Joseph county, and Climax and Leroy in Calhoun county, pursuing his investigations more particularly in the latter township. The statements given below are the conclusions arrived at by Dr. Baker from a collation and comparison of facts obtained, sometimes with the greatest difficulty, in the localities above named, as many of the people do not recognize the disease as hog cholera, and in many instances were unwilling to furnish any information, or aid in an investigation.

The disease prevails in all the above-named localities, and the general impression seems to be that it is spreading east and north. This chances to be in the direction of the prevailing winds, and some are of the opinion that the winds favor its spread. It should be remembered, however, that inasmuch as the disease first struck the southwestern part of the State, if it spreads at all in Michigan, it must necessarily be in that direction. Still, the theory of spread by the wind is worthy of consideration, especially as the cause is known, and appears to be capable of being carried as dust by the wind. Another thing, previously known, was that the disease is communicable. It has also been ascertained that it could be communicated to mice, sheep and chickens, and from each of these back again to the swine, although the disease affected sheep but slightly. Dr. Baker has found evidence in his recent investigations that it may also be communicated to rats, dogs, lambs, colts and cats.

NATURE OF THE DISEASE.

The term "cholera" is a misnomer, except as it conveys an idea of a communicable disease. Contagious typhoid pneumonia would more nearly represent the nature of the disease, but both those terms would probably be misleading unless the mode of communication of the disease is understood, which is by inoculation or by taking the specific virus into the body with the food. It is possible that the disease may be communicated by inhaling the poison, but of this there is not sufficient evidence.

The time which elapses after the entrance of the poison before the disease is noticed is about seven days, but it varies considerably, possibly depending upon the amount of poison introduced and the susceptibility of the system to it. Young animals are most susceptible, and the mortality is greatest among them. The evidence of this was very marked in Dr. Baker's investigations. This is exactly analogous to the communicability of diseases which affect human beings, such as scarlet fever, measles, diphtheria, etc. Some of those who had observed the disease in Leroy township thought it was certainly diphtheria of the hog. Dr. Baker found in other places mention of swelling of the throat and difficulty in swallowing. *Post-mortem* examinations did not reveal signs of diphtheria, however, but did reveal evidence of hog cholera.

THE SYMPTOMS

described in various places varied greatly, but are all easily explained when the nature of the disease is understood. The specific virus circulates through the body wherever the blood goes, and very rapidly reproduces itself. It tends to clog up the smaller blood-vessels throughout the body, and especially in any weak or injured place; therefore the symptoms necessarily differ widely, but the lungs almost uniformly suffer, becoming clogged up in nodules or by entire lobes, in many instances causing death in this manner. Another part of the body next most constantly affected is the large intestine and small intestine near it. Where the glands on the inside of the intestine are enlarged and sometimes ulcerated and inflamed, the adjacent lymphatic glands are enlarged and the stomach is sometimes inflamed. In one case Dr. Baker noticed enlarged spleen, and the liver

had a peculiar purplish appearance. Others have found similar appearances.

From this description, it is easily realized that there is not much hope in medicine being able to eradicate the disease, but as a matter of fact the

FARMERS ARE IMPOSED UPON

all over the country by quacks, and are trying all kinds of remedies. But what is found to answer in one case will not work in the next, indicating that there is no reliance to be placed upon remedies. On the contrary, it is productive of much mischief, as the attempt to keep the animal alive only tends to increase the cause of the disease. Intelligent men say if they had killed all the first animals attacked and placed them four feet under ground, it would have been money in their pockets, by preventing the spread of the disease; but the question of its restriction is very complex, because of its existence among almost all classes of animals, and perhaps in human beings.

NOT RECOGNIZED.

Dr. Baker says the disease is not generally recognized by the people where he went. They say, when the cats have a disease which appears to him the same, that it is consumption. When the dogs had it it was "dog distemper;" when the colts had it it was "epizootic," and when the lambs had it, as they did in some places, they attributed it to feeding on clover, or called it "grub in the head," and cited for proof the fact that after death the "grubs came out of the nose;" but this might occur in summer after death from any disease. The disease is probably spread very largely by mice, rats and cats, which die and lie around unobserved, and to which chickens and hogs have access.

The question which Dr. Baker was especially requested to investigate, whether this disease is

COMMUNICABLE TO MAN,

is attended with much difficulty, because in the neighborhoods where it exists the people are very much afraid, and avoid contact with the disease or eating the meat; but at nearly every point they ship animals of this character, and purchasers only require that the animal shall be alive when put on the cars. They go from there to

Chicago, Detroit, and perhaps to other places, and the difficulty lies in deciding just which pork belongs to animals of that kind. One reason prompting this investigation was that sickness, and in one case death, was attributed to eating sugar-cured ham, in which careful search proved the absence of trichnia. It has been found that

THE POISON OF THE DISEASE

is somewhat easily destroyed, but whether meat from animals that have died of this disease is capable of conveying the disease to human beings who eat it as it is ordinarily prepared, is a question of very great importance, but one upon which conclusive evidence can not yet be obtained. Dr. Baker found one place where the first animals known to be sick were two cats. The next were the chickens, which died very rapidly, and the next was the man of the house, whose symptoms, as described, were not very different from those of the animals. The next were the hogs, not all of which were dead at the time of the doctor's visit. One was killed, and a *post-mortem* revealed hog cholera, every point being verified under the doctor's eyes. At the time of this visit, a son, the only male member of the family remaining, was sick. Whether his sickness bore any relation to the other disease it will be impossible to say, if he lives. Should he die, *post-mortem* might determine the point. Further investigation will be greatly facilitated if persons having any knowledge of this subject will kindly communicate it to the Secretary of the State Board of Health.

Michigan State Board of Health.

Reported for the MEDICAL NEWS.

THE regular quarterly meeting of this Board was held at its office in the State Capitol at Lansing, on Tuesday, October 12, 1880. The following members were present during the meeting: Prof. E. A. Strong, of Grand Rapids; Hon. Le Roy Parker, of Flint; Rev. D. C. Jacokes, of Pontiac; H. F. Lyster, M.D., of Detroit; J. H. Kellogg, M.D., of Battle Creek, and Henry B. Baker, M.D., Secretary.

IMPURE WATER.

Dr. Kellogg reported the completion of his paper on

contamination of water by decaying wood, and mentioned in that connection some observations of his in regard to ice being contaminated by decaying sawdust and other impurities. He showed the fallacy of the popular belief that ice freezes pure, and said that it incloses all organic impurities that float. He described a water-cooler which was designed to avoid contamination of the water by the ice, as would happen if the ice were placed directly in the water. A cylinder containing ice was placed in the center of the cooler, allowing the water to come in contact with this cold cylinder without touching the ice. He also reported progress in studies relative to the work of the new committee to which he was appointed—"the relations of preventable sickness to taxation."

Dr. Baker made a report of the

WORK IN THE SECRETARY'S OFFICE

during the past quarter, which showed the distribution of a large number of annual reports and other documents to officers of local boards of health and other persons. Heretofore documents have usually been sent to the county clerks for distribution to local officers, but having seen that it might be as difficult for some persons to get them from the county clerks' offices as from Lansing, the Secretary sent a circular letter to presidents of villages, asking them whether they wished them sent to county clerks, or if they would pay the express charges if sent to them direct. Of one hundred and two replies, seventy-three desired the packages sent direct, twenty-nine wished them sent to the county clerks, and of the latter, many now lived at or near county seats. Many of these officers expressed great interest in the information contained in the documents of the State Board. From evidence collected at Lansing, it would seem that the documents issued by the State Board of Health are in greater demand than any State documents, with the exception of the reports of the State Board of Agriculture and State Pomological Society.

REGULATION OF MEDICAL PRACTICE.

The Secretary stated that in response to communications relative to the proposed regulation of medical practice, he had prepared a paper and a form for a bill. He submitted an outline of it to the Board. He had done

this heartily, because he feared the State Board of Health would be made the Examining Board, and its usefulness for other important work impaired.

Later in the session, Dr. Lyster spoke on the same subject, and the following resolutions were adopted by the Board: ¶

Resolved, That there should be required of all who are to begin the practice of medicine in this State an examination as to their qualifications.

Resolved, That such examinations by the State should be restricted to questions in demonstrable knowledge as distinguished from questions of mere opinion.

Resolved, That, as a public health measure, a committee of three be appointed to prepare and report at the next meeting of the Board a plan for furthering the objects stated in the preceding resolutions.

Drs. Lyster and Baker and Rev. Dr. Jacokes were appointed such committee.

THE ANNUAL REPORT OF THE SECRETARY,

relative to property received and disposed of during the fiscal year ending Sept. 30, 1880, showed the purchase and placing of meteorological instruments in different parts of the State, the addition of four hundred and fourteen books and pamphlets to the library of the Board, the receipt of weekly and monthly mortality statements from the principal cities in the United States and some foreign countries, the distribution of similar information respecting Lansing and the State; the detailed expenditures of the office, which are classified as follows:

Expenses of members attending meetings, \$205.65; instruments and books, \$147.11; paper, stationery, etc., \$192.51; postage for the office, \$581.90; postage by members, \$16.30; printing and binding, \$389.27; secretary, \$2,000; miscellaneous (which includes telegrams, express, freight, etc.), \$120.39, making a total expenditure for the fiscal year of \$3,653.13.

EXAMINATIONS IN SANITARY SCIENCE.

The Secretary reported that Dr. M. Veenboek, of Grand Rapids, and Henry B. Baker, M.D., of Lansing, the applicants for examination in Sanitary Science by this Board, July 14, both passed the examination, and the Board had since voted to grant them certificates. It was voted to publish the questions asked these candidates, in the re-

port of the Board for 1880. The Secretary reported that, in accordance with instructions from the Board, he had prepared a list of books valuable for reference and study by candidates for the examinations in Sanitary Science, and it was voted to print the list in the annual report for 1880.

OZONE.

An interesting paper, by J. Mulvany, M.D., of the British Navy, giving the results of ozone observations conducted in various parts of the world, was presented, accepted with thanks, and ordered published in the annual report. The paper was read before the Meteorological Society, London, Eng., but not yet published.

REMOVAL OF A SMALL-POX CORPSE.

The Secretary presented a letter describing the method of reinterment, under the direction of the health officer of Lansing, of the body of a person who had died of small-pox.

SANITARY CONVENTIONS.

It was voted to hold two Sanitary Conventions for the reading of papers, discussion of sanitary topics, and the exhibition of sanitary appliances during the coming winter. Rev. Dr. Jacokes and Dr. Baker were appointed a committee to receive invitations and make arrangements for the conventions. Persons desiring a convention at any place, may correspond with either member of the above committee.

Prof. Strong said the convention at Grand Rapids last winter had greatly stimulated public health work in that city.

The Secretary presented an invitation to the International Medical Congress to be held in London, August, 1881.

Dr. Jacokes presented a drawing and description of plan for introducing fresh air to be warmed by a coal stove in the room.

The Secretary was directed to investigate the hog cholera now prevailing in the southwestern part of this State, and find, if possible, any relation between that and any sickness in the human species.

Prof. Strong, the new member, was assigned to work on the committees on the "relations of schools to health," and on "the relations of climate to health."

Dr. Baker presented specimens of pine infected with a fungus, which had completely destroyed the floors of several rooms, constructed of that wood, in a new building. The fungus seemed to grow most where the floor was covered, as with oil-cloth, or by boxes resting on the floor; and in one room the decayed floor corresponded with a portion not exposed to light, though that case may be explained by a greater amount of moisture in that part of the room, because of dampness underneath. The odor in the room was that moldy or musty odor not infrequently met with in close rooms. It caused frontal headache, and a person engaged in repairing the floor had two spells of sneezing on two occasions, some months apart, while thus employed.

The Secretary presented communications from E. P. Christian, M.D., of Wyandotte, relative to diphtheria, etc., and he was instructed to use them in the annual report.

A design for an official seal for the Board was presented by Dr. Baker, and adopted.

Dr. Henry B. Baker was appointed a delegate to the meeting of the American Public Health Association at New Orleans in December.

Auditing of bills and other routine work was accomplished during the day.

The next regular meeting of the Board will be on January 11, 1881.

How Many Functions Does the Uterus Perform?

BY JAMES BARNSFATHER, M.D., M.P.S., ENGLAND.

THIS is a question concerning which there is a great diversity of opinion. Some say that the uterus has *two* distinct functions, viz.: Menstruation and Utero-gestation. Others say it has more functions. Now, I think that the uterus is subject to the same law that governs all the other organs of the body, viz.: A oneness of action. Who ever heard of the eye performing any other duty than that of seeing? It does this from the beginning to the end, and nothing else. The ear only hears, the stomach only has one duty to perform, so also the lungs, heart, kidneys, bladder, etc. Why then should the uterus be

made an exception to the general rule? To my mind it is not.

Since I wrote my first article on the microscopical character of the menstrual discharge (*vide* Cincinnati MEDICAL NEWS, March, 1875), and its relation to the mucous membrane of the uterus, I have been frequently asked by medical men the question which heads this article, and I have invariably advocated the theory of the *oneness* of action of the uterus. Let us examine this matter for a few minutes, and we will see how many offices it performs. From birth until puberty the young uterus performs no functions. At puberty the uterus commences its work, which it does without or with pain in exact ratio to the normal or abnormal condition of the organ. In menstruation the organ enlarges, and the lining membrane is shed, either as debris, or in pieces, or sometimes whole (as in membranous dysmenorrhœa, these abnormal conditions being always attended with pain, as the uterus is performing its functions under difficulties). Moreover, we note that the pains in menstruation come and go the same as the pains in parturition. We also notice that the os tincæ dilates to a greater or less extent during the catamenial period, and gradually returns to its former condition at the cessation of the flow. As a matter of course, in parturition we have greater dilatation, and we have its placenta and its attachments thrown off by the contractions of the muscular fibers of the uterus. These fibers perform the same office in the *minor process* of menstruation, as in the *major* or parturient process. Yet their office is *one and the same in both processes*. The post-parturient process of involution is also repeated, in a very slight degree, in the menstrual process.

It is a wise provision of nature, that each part of the animal economy has a certain duty to perform, which it does at all times with unfailing certainty, *modified only by some lesion*, and then it attempts to perform its part, to the best of its ability, by trying to overcome any difficulties or obstructions it may meet with. It is quite natural for the muscular fibers of the uterus to contract at the full term of gestation, in order to expel the contents in its cavity. Following the same rule, it is quite as natural for the muscular fibers to contract, at the minor operation of expelling the degenerated and now useless

membrane, during the term of menstruation. In the major process, we sometimes hear of painless labors, and in the minor process, we frequently hear of painless menstruation. In each case we have the membranes thrown off, with the usual muscular contractions, with this exception, that at the major operation we have a more complete and a more developed membrane thrown off. But let some lesion interfere with the normal action of the uterine muscularia, and then we will have pain, caused by the extraordinary efforts they make to perform their natural function. We find this in cases of version, flexion and dysmenorrhœa in all their forms, down to that most agonizing condition called dysmenorrhœa membranacea, where the membrane is thrown off entire, similar to that in pregnancy, although in a less developed condition. In the major operation, *e. g.*, as in the case of abortion, we have more hemorrhage at the next catamenial flow, as the blood-vessels are more enlarged, and the separation of the membranes are more complete than in the menstrual or minor operation; *but the fundamental principle is the same in both processes.*

In the few remarks, I have confined myself entirely to the uterus proper, and do not include its attachments and appendages.

SELECTIONS.

Mr. Gordon's Paper.

Read before the Managers of Associated Charities of Cincinnati.

MR. GUSTAVUS E. GORDON, of Milwaukee, read a paper on the causes for the little success of philanthropy. Following are the principal points of his address:

I am of the opinion that a careful study of vital statistics will reveal the astonishing fact that one-half of the gross and palpable evil of the world is due *directly* to hereditary causes, and one-quarter more to indirect influences beyond the immediate control of the evil-doer. That organization tyrannizes over character to an extent we can not fathom. I think of this hereditary kingdom of the dead, this triumph of the dead over the living, as *mortmain*, the grasp of the mass of society upon each

separate part, the mortgage that each generation holds upon the succeeding one, and that all generations have upon the present. The *purpose* of this grim attainder is, of course, beyond knowledge, perhaps beyond guess; and the only possible *satisfaction* in it lies in the increased feeling of the *solidarity* of the race that is produced by the touch of *mortmain*, the touch of the dead-hand, which, for more or for less, no one wholly escapes feeling.

The law of heredity may be stated thus:

I. The progression of humanity is by fixed and immutable principles, having boundaries across which none can pass.

II. Within these boundaries there is free play on the one side for genius and extraordinary virtues, and on the other for degeneration and marked vices, or—

Speaking by a figure—the tide of humanity rolls ever onward, a slowly widening and deepening stream, now and then falling in magnificent proportions over a massive eminence, with roars and rainbows, and then, losing portions of its bulk by little creeks that steal from its body to lose themselves in stagnant pools or sour morasses.

What concerns us mainly, however, is that while the stream of human life, in its mass and volume, takes care of its own destiny, the diversities from the main current are a matter largely within the concern of man himself. The uniformity is *above* our power, the diversity *within it*.

It has been well shown by Mr. Huxley, Dr. Holmes, Dr. Slane, Dr. Carpenter, Dr. Lucas, M. Morel, Ribot, Francis Galton and others that nothing is more important to the drift of civilization than a proper and worthy estimation of the effects of heredity. It has been constantly shown by these persons, that although “the doctrine of hereditary transmission of qualities, both corporeal and mental, has met with almost universal acceptance among thoughtful minds everywhere, yet it has been almost completely ignored as to its practical bearings by moralists and legislators.” (Elam.)

Thoughtful men are convinced of the substantial truth of the proposition of Burbach: “That heritage has in reality more power over our constitution and character than all the influences from without, whether moral or physical;” yet how little notice is taken of the fact as a practical responsibility.

Children are born, reared and educated without reference to this fact. People marry without a thought of the tremendous consequences. Legislation proceeds from imbecility to imbecility; criminals are caught and confined; pauperism flourishes; insanity and idiocy increase; diseases of horrible sorts invade the home. Yet nothing is done to cut off the roots of these disorders *where the roots can be seen*.

I know of no subject which calls for so much thought and observation, and which makes so great a demand upon the conscience of the age, as the one before us. It is a most momentous subject in its relations to the future of America, where everything has been left to work its way in accordance with an enlightened public opinion. But the subject is so large and intricate that I can not hope to do more than draw your attention to its further study and consideration:

I. Physical structure and tendency are transmitted. Agassiz placed on record cases where traces of surgical operations had been transmitted. Monstrosities are frequently reproduced. Peculiarities of gait, gesture and deportment are singularly hereditary.

"This boy," says Dr. Holmes, "sits with his legs crossed, just as his uncle, whom he never saw, used to sit; his grandfathers both died before he was born, but he has the movement of the eyebrows we remember in one, and the hasty temper of the other." Children of very talkative parents are great gabblers. Idiosyncrasies of tastes, likes and dislikes, oddities of expression, and tricks of conduct and behavior, are all more or less hereditary, and are transmitted with great precision.

Hofacker, in Germany, has collected many facts showing that the handwriting of parents is an inheritance in many cases; while Miss Cobbe assures us that "a very characteristic type of writing is traceable in her family through *five* generations." "The liability to die at about a certain age is transmissible." The famous "Turgots" family rarely exceeded fifty years, while the "Quersonniers" had to be killed to die at all; at least many of them lived to over one hundred, and died at last as the results of accidents arising from decrepitude.

Diseases run in ancestral lines—gout, apoplexy, hemorrhages, special inflammations and other forms of disease peculiar to certain families.

II. Intellectual peculiarities and tendencies are transmissible. Galton has shown us in his great work on "Hereditary Genius" that "illustrious men arise oftenest from *families* displaying eminent talents." "Great men," Galton says, "*seem* to arise like islands, isolated and unaccountable; but this is an illusion—they are given to us usually by parents unknown to fame, but still true progenitors of those whose fame is seen, as tops of hills whose extent lies hidden by the obscuring ocean." We have the Tassos, the Kembles, the Coleridges, the Herschels. Legislative ability was transmitted from the elder Pitt and the elder Fox to their sons. Among actors we have the Keans, the Booths and the Matthews families. "Mirabeau, the father, contained, so to speak, Mirabeau the tribune. The family of Æschylus numbered eight poets."

Flaxman and Thorwaldsen were both sons of sculptors. Raphael was the son of a painter. Titian, Vernet and others belonged to artistic families. Mozart's father was a talented violinist. Beethoven was the son of a tenor singer, while the family group of Sebastian Bach numbers over one hundred musicians, by various mothers.

But special intellectual qualities seldom survive longer than four generations, when the family group returns to the common ways of the surrounding world of men and women.

III. A branch of this question, at once interesting and instructive, is that which would be set apart for such hereditary tendencies as affect the sensibilities and emotions.

Do not men inherit their religions? Undoubtedly they do. I suppose that the persistence of superstitions (as we call beliefs in which we do not share) will be largely owing to inherited tendencies to believe and to receive certain forms of emotional expressions. If a young pointer who has never seen a partridge trembles when he is brought into the vicinity of such a bird, how much more shall we tremble and turn pale when we stand before such things as our ancestors, for countless generations, have held in awe? If a child *instinctively*, as we say—that is, by force of heredity—runs from a harmless snake, because, in savage conditions, her ancestors kept up a constant contest with serpents, how much more shall

we dread the thought of meeting with ghosts, whose imaginary presence has haunted the human brain for ages with a nameless dread? Madame de Stael said, when asked if she believed in ghosts, "No, but I am *afraid* of them." I know I do not believe in ghosts, but I know I am afraid of them in unguarded moments. I know scores of "emancipated" people who still believe in unlucky days, and uncanny signs and forebodings, and such like things, by force of hereditary influences they can not shake off.

"The momentum of ages can not be changed in direction in a single life, and if it could the pledges of human progress, which, after all, are based on human *permanence*, would be done away."

IV. But the deepest view we can take of this law of heredity is its effect upon morals. There is an ascertained *uncertainty* about the transmission of high qualities. Intelligence, genius, talent, courage, tact, *may* be passed on with tolerable accuracy from parents to children. Structural difficulties may or may not appear again in offspring. Ordinary diseases may or may not be reproduced. Oddities and idiosyncracies may or may not return again to vex. But one thing seems absolutely *certain*, viz.: "Acquired and habitual vices rarely fail to leave their trace upon the offspring, either in an original or allied form."

The habit of a parent, if it assume the character of a *vice*, becomes the *instinct* of the child, and that, with the presence of corresponding *weakness of will and conscience*. This is a most tremendous fact. And this is the thrilling truth about the inheritance of vice, viz.: That a vicious habit in the parent does not become a habit also in the child, but a *disease*. To illustrate this, I will take a most prominent vice, viz.: Intemperance.

Intemperate parents, or intemperance in a parent, produces in children a direct disease called "dipsomania," and a large group of kindred ills. Dipsomania is not a habit, and can not be treated as such; it is a disease, and is characterized as follows by a recent writer in the *Psychological Journal*: "An impulsive desire for stimulant drinks, uncontrolled by any motives that can be addressed to the reason or conscience, in which the passion for drink is the master passion, and subdues to itself every other desire or faculty." M. Morel, a distinguished French scientist, says: "Hereditary inebriety presents itself with

a complete abolition of all the moral sentiments. Families are ruined without a pang of regret, and life ceases to have any claim upon these victims to a father's or a mother's vices."

Intemperance in parents leads to other forms of inherited disease. Out of three hundred idiots examined by Dr. Howe, in Massachusetts, one hundred and forty-five were the children of intemperate parents; and Dr. Down, whose experience in England has been very large, thinks fifty per cent. of idiocy is traceable to intemperate habits on the part of the parents.

Let me sum up, in a brief way, the points I have urged upon your attention:

1. Every functional peculiarity and every feature of peculiar structure may be transmitted to children.

2. Every "habit or aptitude," every trick, idiosyncrasy or eccentricity, may be transmitted.

3. Intellectual endowment or deficiency may be transmitted.

4. Every *well-marked vice* must be transmitted to children, either as it is or in some relative form.

5. The vice of the parent becomes in the child not the habit, but the irresistible impulse or mania.

6. Transmitted vices die away in future generations, through hideous diseases, to idiocy and sterility.

Yet in all this dreary picture there is a ray of hope. This law of heredity is inexorable; it will work its way; but it also works *out* its taint. "If I had made this world," says Colonel Ingersoll, "I would have made *health* catching instead of disease." But the world is made on a different, though not less benevolent, plan. Though disease is catching, and vice hereditary, it is self-destructive. Four generations, or five, of direct inheritance, eradicates vice and its belongings by sterility.

In Dr. Gull's eloquent discourse on "Clinical Observation in Relation to Medicine," he says: "It is now becoming clear that diseases are perverted life processes, and have for their natural history not only a beginning, but a culmination and decline. The effects of disease may be for three or four generations, *but the laws of health are eternal.*"

[To be continued.]

On Milk and its Use as a Therapeutic Agent.

BY THOMAS J. GALLAHER, M. D.

MILK is an animal secretion with which we are all familiar; it forms an important article of diet, with most persons, from the commencement to the termination of their lives.

At first the infant draws its nourishment from the maternal breast, but as he passes the period of infancy, the milk he uses for the purposes of nutrition is chiefly obtained from the cow. The milk of other domestic animals, as of the goat, ass, sheep and the mare, is sometimes obtained for a similar purpose. Milk, from whatever source obtained, is a white opaque liquid, homogeneous in character, not coaguable by heat, and capable of separating, on standing, into cream and common milk.

When examined by the microscope, it is found to contain an infinite number of small spherical bodies called milk globules, floating in a transparent liquid. The globules are exceedingly small, varying in size from $\frac{1}{2500}$ to $\frac{1}{1250}$ of an inch in diameter. They consist of butter, either pure or enveloped in caseous membranes of extreme tenuity, and held in suspension by the liquid containing them, in the form of an emulsion, or they are anatomical elements of the milk.

The color and opacity of milk depend upon the presence of these globules, for when they are completely separated by a process of filtration, as has been done by Sir Ashley Cooper and others, the remaining fluid is seen to be transparent.

Milk, no matter from what animal obtained, consists of water, casein, albumen, butter, lactine and a number of inorganic salts, of which the earthly phosphates and alkaline chlorides are the most important. These ingredients vary in their relative proportions in different animals. In comparing human with cow's milk, it is found that the former contains more butter and sugar of milk, while the latter is richer in casein and albumen. Goat's and sheep's milk contain more casein and butter than either that of the cow or human, while the ass' and mare's are richer in sugar and poorer in casein and butter. The amount of lactine in mare's milk is so great that the Tar-

tars, by a process of fermentation, prepare from it a kind of intoxicating drink called "koumiss," which they greatly relish.

Experiments on carnivorous animals show, that when they are fed exclusively on meat, their milk contains abundance of casein and butter, but only a trace of sugar.

Milk is altered in composition by a variety of causes. In the human subject it is well known that the character of the milk is affected by many circumstances with which the mother may be surrounded—the food which she eats, the medicines she takes, the diseases under which she may be suffering and the mental emotions to which she may be subjected. Mothers suffering from consumption yield a milk containing an excess of the salts of lime; those affected with constitutional syphilis so impregnate their milk with the syphilitic poison as to communicate the disease to the nursing infant. Some medicines given the mother act on the child as well as upon herself. Infantile constipation and syphilis are often treated and brought under control in this way; the medicines finding their entrance into the infantile system only through the mother's milk.

Fright, extreme sorrow, sudden joy and other causes of mental disturbance to the mother often cause serious mischief and sometimes sudden death to the infant at her breast. From these and other facts which could be stated, it is evident that the practitioner of medicine can not be too cautious in the selection of wet nurses for children deprived of the maternal breast.

Cows are also known to yield milk differing in the quality and quantity according to their food and drink, and the treatment to which they are subjected. Cows living in country districts, where they have pure air, fine and abundant pasturage and clean water, yield a milk richer in all its ingredients than when they are subjected to opposite conditions. Animals confined and stall-fed give a very inferior milk, having an acid reaction, whereas it should be neutral.

No doubt important changes in the milk of other animals also occur from their methods of living, but these have not been noticed with the same care as those observed in the milk of the human and the cow.

Having thus far treated of milk in general, I wish now

to confine myself to a further consideration of cow's milk alone, unless when otherwise mentioned, its purity and impurities, and its use as a therapeutic agent in some of the diseases afflicting humanity.

Cow's milk is known to possess the property of absorption in an eminent degree, and this absorbing power is known to reside chiefly, if not exclusively, in the oil globules. The substances which may be absorbed are gases, vapors, various impurities of the air, emanations from animal and vegetable substances, the germs of decaying organic matter and perhaps the infectious principles of contagious diseases, as of typhus fever and scarletina. It has long been a popular expedient to place vessels, filled with milk and uncovered in the larder, along with the meat of game to keep it fresh and sweet, and prevent putrefaction. Experience has shown that the flesh is preserved, while the milk acquires such offensive properties as to make it unfit for use. The milk in such instances absorbed the emanations from the meat as fast as formed, thus preserving the meat and injuring the milk.

Dr. Lawson Tait, of Birmingham, Eng., made some experiments in 1871 confirmatory of the popular notion as to the absorbing properties of milk. He placed milk under glass-bell jars along with certain substances containing gaseous or volatile principles, such as tar, turpentine, asafoetida, fæces, urine, etc., and found that the milk in a short time acquired the smell and taste of the substance with which it was placed in contact, and was thereby rendered unfit for use.

These experiments have been in a measure confirmed by the experience of our household. On several occasions, during the summer season especially, when green vegetables were placed in the refrigerator along with a vessel of milk, the latter frequently acquired an altered and unpalatable taste. As already stated, this remarkable absorbing property of milk, according to Dr. Tait, was found to exist chiefly in the cream that rose to the surface; the butter of the oil globules being the essential absorbing substance. Dr. T. is of the opinion that milk when carelessly exposed may absorb the poisonous effluvia of certain affections, and thus be the chief factor in the origin and spread of certain affections in an endemic form.

BRAITHWAITE, January, 1871.

It is well known to the manufacturer of condensed milk and cheese, that the milk of many cows can not be used in the manufacture of these articles. In some cases it is probable the milk acquires impurities or undergoes putrefactive changes during the process of milking or by useless handling after its removal from the cow, but I believe there can be no question as to the fact that the milk often acquires unhealthy properties while it is yet retained in the udder. Dr. Caldwell asserts that the germs or fungi thrown off from putrefying matter, mingling with the air, are inhaled by the cows and injuriously affect their milk.

In the London *Lancet*, December, 1873, Dr. J. W. Ogle publishes a communication on the subject of milk impurities and putrefactions, in which he gives some interesting statements on this subject from the pen of Dr. A. Williams, of New York, as published in the Royal Agricultural Reports of that year.

On this authority it is asserted that a Mr. Foster, of New York State, has demonstrated that cows that are continually subjected to the odors of putrefying animal remains furnish a milk unfit for the manufacture of cheese, and that when such milk is mixed with the milk of cows not subjected to such an impregnated atmosphere, it sets up such unhealthy action as to render the whole unfit for the purpose desired.

In such cases it is believed that the emanations from the animal decomposition entering the circulation of the cow through the lungs causes a change in the character of the milk, especially of the casein, before it leaves the body of the animal. In other cases the milk may be perfectly good when first drawn from the udder, but soon undergoes the putrefactive decomposition. Such milk is not only unfitted for the manufacture of cheese, but can not be used in the making of condensed milk. The cause of this early putrefaction has been discovered to have its origin in small particles of putrefying matter, which adhere to the teats and udder of the cow, and fall from thence into the milk during the act of milking. Animals kept in inclosures containing vegetable matter in a state of decomposition, and those that are compelled to cross sloughs, daily or frequently, are exceedingly apt to have portions of putrid substances adhering to their udders.

These putrid matters falling into the milk soon impart to it putridity.

Prof. Law, of Cornell University, has given us a striking instance of the impurity of milk and its cause. Observing that the cream furnished him was ropy and unhealthy looking, he placed a drop of it under the microscope. To his astonishment he found it filled with organisms (bacteria) foreign to good milk. He then visited the dairy, but could find nothing in the handling of the milk to account for this unlooked for phenomenon. Everything was clean and in order. In the field or inclosure, where the cows were kept, he discovered a pool of stagnant water, where the animals were compelled to slack their thirst. The microscope revealed, in a drop of water taken from this pool, innumerable organisms identical with those found in the cream. A drop of this water was then added to a quantity of pure untainted milk, when soon the milk swarmed with the same organic structures. The cows were next examined, and they were found by the thermometer to be hot and feverish, showing an unhealthy condition induced by the passage of these organisms through the system. It is probable that the bacteria may have been in the milk while it yet remained in the milk vessels. It is unfortunate that the Professor did not examine microscopically the milk as it came from the cow, as he might then have demonstrated whether it was affected before its removal from the cow. The consumption of certain weeds by cattle is well known to exert an injurious influence on the milk. Bitterness of the milk, occasioned by the eating of the herb known as rag-weed, is an apt illustration of this statement. Both the milk and the butter made from it are unfit for use.

A disease known as milk sickness, which prevails occasionally in some of our Western States, is popularly believed to be caused by the consumption of milk, which has become poisoned by certain vegetables consumed by cows. This opinion is espoused by many of the profession, and may be correct, but a committee of medical gentlemen appointed to examine this question was unable to give a decided opinion on the subject.

Many instances are on record where outbreaks of typhoid fever, in the endemic form, were traced to the use of milk coming from a certain dairy. Dr. Ballard gives an account of such an outbreak which occurred in Isling-

ton, Eng., in 1870. The majority of families in which the disease prevailed were found to take milk from the same company. He makes a very plausible argument in favor of the milk being the cause of the origin and spread of the affection.

Dr. Murchison published a similar statement as regards the occurrence of typhoid fever in one of the districts of London. He professed to have traced it to the consumption of milk obtained from a certain dairy. Investigation proved good management in the handling of milk, and also in the feeding and watering of the cows. But a sluggish stream of water passed near by which was thought to contain impure water, in which the milker sometimes rinsed his milk-pail previous to straining the milk. From this little circumstance, Dr. M. concluded that the milk derived germs of typhoid fever from this water, and that these rapidly multiplying in the milk rendered it infectious. From these observations, it will be seen that while milk is so useful to mankind it sometimes is the medium by which sickness and death may enter the family circle.

Having written at some length on milk as regards some of its most unpleasant aspects, I now propose to say something on the other side; something to cheer the human mind with the belief that we have such a substance as cow's milk; a liquid that has saved the lives of millions of our race.

Milk is a nutrient—it contains all the ingredients necessary to the maintenance of perfect health. Whether in infancy or old age it supports life, gives nutrition to the various organs and tissues and maintains the normal temperature.

Prof. Black, of scientific fame, was a firm believer that milk was the most suitable food for man in his declining years. He used it himself for many years previous to his death, and when he died, he sank to rest with a bowl of the precious liquid in his hand.

The writer now desires to say a few words in regard to the use of milk as a prophylactic of scarletina. It has often been observed that infants at the breast seldom have an attack of scarletina, no matter how much they may be exposed to the infection. From my own observations, I am persuaded that this immunity arises not so much from the age of the child as from the constant

use of milk. From data which I obtained some years ago and presented in a short paper to the Allegheny County Medical Society, but to which I can not now refer except in general terms, it appears that infants confined exclusively to the mother's breast generally escaped the disease; but those fed on a mixed diet, of which mother's milk was a part—no matter how young they were—took the affection as readily as children of more advanced age. Infants fed partly on cow's milk and partly on the amylacea and other food, derive no protection from their tender age. The conclusion I arrived at was, that the mother's milk as an exclusive diet was a prophylactic against scarlet fever, and that when exposure of the infant to this disease was imminent, the best protection that could be afforded him would be to confine him exclusively to the breast. I made some experiments on the use of cow's milk as a protective remedy in older children; but from the difficulties and uncertainties attending them, I can draw no certain conclusions on the subject. Milk, either in its pure state or skimmed, has long been employed as a therapeutic agent in many affections. Hypocrates, Celsus, Galen and many other medical authorities of antiquity appear to have used it with success as a therapeutic agent in phthisis, chronic affections of the joints and other prolonged diseases requiring active nutrition.

It is said by Dr. Doukin that Pliny asserts that the ancient Arcadians employed milk alone as a remedy for diseases appearing in the springtime. At this period of the year it was presumed that cows, coming from spring pastures, furnished a milk loaded with the odors and medicinal virtues of the many plants they consumed. Even in the latter part of the fifteenth century we find this view entertained and practically enforced in Italy. Many of the cities of Italy set apart portions of land, where certain herbs and plants were cultivated, for the express purpose of feeding such cows that give milk for the use of invalids. The milk was presumed to be medicated by such pasturage.

According to Dr. Fawaes, of India, it appears that pure milk has been employed as a remedial agent by the native practitioners of that country for ages. From thence the milk treatment for diseases was introduced into Europe by a Dr. Philip Kabell, a Russian physician, as late

as the year 1866. This eminent practitioner of medicine published that year a lengthy paper in the *Edinburgh Medical Journal* on the "Skim Milk Treatment," in the cure of diseases in which he professes to have treated successfully 200 cases. From the wonderful success attending his efforts, he is at a loss to know whether the curative influence of the milk depends upon its nutritive property alone, or whether, in conjunction with this property, it possesses curative principles, having a different mode of action. It seems to be merely a regulator of nutrition.

The diseases Dr. K. treated successfully by this mode of practice are numerous and varied. In the different forms of dropsy, no matter what organ or what kind of lesion, except it be malignant or incurable, may cause or accompany the effusion, this treatment is applicable. He professes to have cured asthma, when dependent on chronic bronchial catarrh and emphysema, hypertrophy and fatty degeneration of the liver, obstinate neuralgias, having their cause located in the intestinal organs, and many other diseases in which perverted nutrition was the primary source of the affection.

As to dropsies, he appears to have been peculiarly successful. Anasarca, ascites, hydrothorax, oedema, with or without chronic affections, not incurable, of the heart, liver or kidneys, yielded alike to this method of treatment. To succeed by the milk treatment, the milk must be pure and good, and should be given in most instances at regular intervals, and in such quantities as the stomach and intestines are able to digest. During the first week of the treatment, the milk should be given in from three to six ounces at a meal, and this amount repeated at intervals of four hours during the day, commencing at 8 o'clock A. M. On the second week, four pints in four equally divided doses should be given at the same intervals. After this, from five to six or even eight pints may be given daily in the same way. In the commencement of the treatment, a larger or smaller quantity may be given at a time as the digestive organs seem to bear. Milk completely deprived of its cream or skimmed is the kind used. It is better in preparing the "skim milk" that fresh milk be allowed to stand many hours—from twelve to twenty-four—in a cool place before removing the cream from the top; this being carefully done, the milk

is ready for use. Should diarrhea supervene on this treatment, the milk has either been given in too large quantities, or it contains too much cream. Smaller quantities must be given, or greater care must be taken in the removal of the cream, as the case may be. Constipation, with hard stools, indicates digestion of the milk, and points to an increase of the quantity of milk consumed. If constipation is troublesome in the commencement of the treatment, it may be relieved by enemas of warm water, or some gentle laxative, as castor oil.

Occurring at a late period with offensive evacuations, a little coffee added to the morning milk, and the use at dinner (4 o'clock P. M.) of a few stewed prunes, or a roasted apple, will generally correct it. Should the patient complain of much thirst, a little pure cold water or seltzer water may be allowed. In some cases the patient has an almost irresistible desire for solid food. Here Dr. K. allows a gruel made of oatmeal, combined with a portion of the milk, at 4 o'clock P. M., in the latter part of the second week or during the third. Beyond these exceptions, the patient takes nothing but pure skim milk for a period of five or six weeks. A slight improvement may then be made in the variety of food. Milk may now be administered but twice daily, and a weekly allowance of beef or mutton, raw or broiled, may be added to this dietary.

At a subsequent period, when the patient is greatly improved, a more solid and generous food is given. Besides the diseases already mentioned, in which the skim-milk diet has been found successful, Dr. Kabell suggests that it might prove useful in gastric ulcer, and in chronic, fatty degeneration of the arterial walls. Should it prove to be curative in this latter affection, apoplexies would find in it an excellent remedy.

AMERICAN JOURNAL OF MEDICAL SCIENCE, October, 1866.

On the publication of Dr. Kabell's paper, Dr. S. A. Doukin adopted this mode of treatment in many affections, and with marked success. He eventually tried it in that much dreaded and generally fatal affection, "diabetes mellitis," with success in proper cases; that is, where the disease had not been too prolonged. He published an account of two cases, in London *Lancet*, for January, 1880 (American Reprint), treated by the skim-

milk diet, with complete success in one case, and almost complete in the other. The cause of practical failure in the latter instance he attributed to the secret indulgence in the use of bread while the patient was under treatment. In both cases he gave the patients six pints skim milk daily, in divided doses, at such intervals as was recommended by Dr. K., for a period of two months, with amelioration in the symptoms. In one of the cases the patient was passing daily fifteen pints of urine, of a high specific gravity, containing an abundance of sugar. In two months the daily amount of urine voided was reduced to three and one-half pints, with a corresponding diminution in the specific gravity, and in the amount of sugar. One-half pound of beef or mutton, with a moderate allowance of cabbage and green vegetables, were added to his dinner, while the quantity of milk was reduced from six to five pints. No medicine but quinine and iron was given. The patient improved rapidly. Subsequently he employed this diet in two cases of chronic Bright's disease with highly encouraging results. In these cases the urine was scanty and richly albuminous, while dropsical effusions, as anasarca, ascites, and, in one case, hydrothorax, existed.

An exclusive skim-milk diet of 5 pints daily and a moderate allowance of brown bread was given. As medicine, 20 gr. of acetate of potassium with 20 drops of tinct. digitalis were given three times daily. Under this treatment the dropsical effusions speedily disappeared, and the urine was soon relieved of its albumen. A mixture of quinine and iron restored the patients to perfect health. After the patients had greatly improved, one-half pound of beef or mutton was added to the dinner meal.

Dr. Doukin's method of giving skim milk is very similar to that of Dr. Kabell's. He gives from 5 to 7 pints daily, and sometimes more, in divided doses, and at regular intervals, as long as the exigencies of the case require. He prefers giving it warm, and is especially careful to have the cream completely removed, particularly in cases of diabetes mellitis, lest during the nutritive process the butter should undergo a change. By his subsequent experience, Dr. D. was satisfied that it is better to begin the skim-milk treatment in smaller and more frequently repeated doses than he first employed. On

the first day he now gives half a teacupful every two or three hours; on the second day, double the quantity in the same intervals; on the third day, three pints, in divided doses of one-half pint every three or four hours; whilst on the fifth and sixth days, 5 pints; on the seventh day, 6 or 7 pints, in four equally divided doses, given at intervals of four hours during the day, commencing at 8 o'clock A. M.

In the treatment of both Bright's disease and diabetes, the skim milk, as an exclusive diet, must be employed until the albumen in the one case and the glucose in the other entirely disappears from the urine.

The form of Bright's disease in which he found it most useful, is the enlarged and fatty kidney. When the kidneys contract from long continued disease, temporary relief only is obtained. In the further management of diabetes, great care must be taken to prevent the patient from having any substances containing starch or cane sugar, until he is perfectly restored, and even then it is doubtful if he can use them any length of time with safety. After the milk diet has been used for five, six or eight weeks, or until the glucose has entirely disappeared from the urine, curds made from 2 or 3 pints of milk, by adding to it essence of rennet, may be taken at the dinner meal. Three or four weeks afterward, when the urine has become normal in quantity and quality, and when the strength and health of the patient have greatly improved, one-half pound of beef or mutton, with a small portion of cabbage; lettuce, brussel sprouts, greens or spinach, may be given at dinner along with the milk. Weeks or months subsequent, fish with bread—made of 80 per cent. of gluten, and 10 per cent. of bran, from which the starch has been carefully excluded—may also be taken at the dinner table. This treatment, persevered in, will cure diabetes mellitis in its early stages, and is far preferable to the meat and gluten treatment now so much in vogue. Dr. Belfour has also used the skim-milk treatment with success in several cases of asthma, which had resisted all other plans of cure. One case of diabetes mellitis treated by him in a short time received great benefit. At first, he mixed solid food with 2 or 3 pints of skim milk daily, and, as the case proceeds, gradually withdraws the solid matters, and increases the milk to 5

or 8 pints. The milk is then given in divided quantities, and at intervals similar to the methods of Drs. Kabell and Doukin.

BRAITHWAITE RETROSPECT, July, 1870. }

From Editor of Medical Journal. }

Dr. Gardner vigorously insists on the value of milk in the treatment of continued fevers. He has given it with success in such cases during the last fifteen years, and now employs it to the exclusion of wines and brandies.

AMERICAN JOURNAL MEDICAL SCIENCE, Oct., 1865. }

From Lancet. }

Recently it has been tried in chronic constipation by Dr. W. F. Trevan, of England. The case was a marked one, following the operation of lithotomy. The patient commenced the milk treatment seven years after the operation; much of this time he suffered from all the symptoms of cystitis, purulent urine, and from the use of the catheter. In sixteen days' treatment by the method of Dr. Geo. Johnston—that is, by using pure or unskimmed milk—he was perfectly restored to health. He had no further use for the catheter.

LANCET, Feb., 1879. Am. Rep.

In hypertrophy of the heart, where the muscular fibers are so developed and strong as to cause tension in the arteries, notwithstanding the existence of valvular insufficiency, aortic obstruction or dilatation of those cavities, Dr. Pecholior, of Montpelier, Vt., found great benefit by the adoption of the skim-milk diet. Under its use the impulse and palpitations of the heart gradually diminished, and the congestive condition of the brain, face and lungs disappeared.

AM. JOUR. MED. SCI., July, 1867.

The milk treatment in various affections has found an able advocate in the person of Dr. Geo. Johnston, of Kings College, London. The gentleman has treated many cases of chronic dysentery, typhoid fever, Bright's disease of the kidney, and chronic and subacute inflammation of the bladder, with good results. Dr. Johnston uses the pure milk, retaining the cream. In this he differs with most other advocates of the exclusive milk diet. He prefers retaining the cream, as this is the part of the milk in which its laxative properties reside. When the cream disagrees, as indicated by heartburn, headache or diar-

rhea, he recommends a portion of cream to be removed. He often orders a gallon of pure milk to be taken in twenty-four hours, but never more than a pint at a time. In chronic affections of the bladder, after operations for calculus, he considers the treatment particularly efficacious. Dr. Johnston does not pay much regard to regularity in the administration of milk.

It would appear, from the experience of many distinguished physicians who employ the milk treatment in the cure of diseases, that benefit may be derived from the use of both skimmed and unskimmed milk. But since cream frequently disagrees, and at other times proves injurious, as in the fatty degenerations, especially of the kidneys, preference in the vast majority of cases should be given to the skimmed milk, which seldom disagrees with the bowels and stomach. It should be borne in mind that from 6 to 7 pints of milk are amply sufficient to sustain life, in the vast majority of instances, for a prolonged period, during which the patient acquires strength and flesh; but in some cases, where the subject is very large and has a voracious appetite, 8 or 10 pints may be required.

As a rule, one gallon of pure milk given daily, as recommended by Dr. J., is too much; headache and diarrhea must necessarily follow its employment. Experience teaches that the greatest benefit follows when the milk is given at stated times or methodically. Certain portions given four times daily, four hours apart, commencing at 8 o'clock A. M., and ending at 8 o'clock P. M., has certainly been proven to be the most judicious and successful method of employing the milk treatment. In several instances I have had occasion to use this treatment, and with marked success in Bright's disease and in chronic cystitis.—*Pittsburg Medical Journal*.

St. Louis Medical Society.

DISCUSSION ON THE ADVISABILITY OF CATHARTICS IN OBSTRUCTIONS OF THE BOWELS.

Dr. Johnston—Addressed the Society on the subject which had been discussed at the preceding meeting, as follows: Dr. Prewitt has announced to the Society that a

physician who would administer a purgative for constipation would be guilty of criminal practice. A most extraordinary doctrine! None but a homeopath, almost a transcendentalist, would enunciate such doctrines.

Why, four thousand years ago, when Hippocrates was practicing medicine in the Island of Cos, he gave a mild purgative in such cases, and if Dr. Prewitt had ever made use of such remedies for this complaint he would now practice the same treatment. On what does the constipation of the bowels depend? Is it not dependent to a certain extent upon a lack of nerve action? The ileo-cæcal valve, the ascending, transverse, descending colon and rectum are to some extent paralyzed when the great sympathetic nerve originating from the brain is deficient in action. Then if you wish to cure the consequent constipation, should you not attempt to stimulate the nervous system into action, and so bring about the peristaltic movement of the bowels? And yet the Doctor says, that such practice would be criminal. Now, if you give a purgative, this stimulation of the nervous system is exactly what you accomplish by it. For what is the nature of a purgative? Does it not increase the nerve power, does it not stimulate the brain and spinal marrow? And would it not in this way overcome this partial paralysis in them? Does not every writer tell you, in constipation of the bowels, the administration of purgatives is proper?

And now as regards intussusception. Dr. Prewitt asserts that he can distinguish between the nausea resulting from some irritation of the pneumo-gastric nerve or that accompanying intussusception; if he can do this, and by differential diagnosis be able to recognize a case of intussusception when he sees it, he would then be justified in abstaining from the use of a purgative.

He has also stated that he could diagnosis a case of twist of the bowel from intussusception. If intussusception goes on, inflammation sets up, plastic matter is thrown out and sloughing takes place. But to assert that before all this occurs, it is possible to diagnosis a case of intussusception is to make a most remarkable statement; and such a diagnosis would certainly require an amount of learning and acuteness of observation hitherto unheard of. In the ascending colon intussusception may be present for one or two weeks, without any of these symptoms occurring. In the transverse colon, if it occur, there will

be vomiting or purging. And if the ileo-cæcal valve has thrown out plastic matter, and there is a stricture with it, how is it possible to distinguish that from intussusception or from a twist of the bowels? And suppose the transverse colon is sometimes so distended with fæcal matter that it is five or six inches in diameter, how could you tell but that there was a tumor there?

Dr. A. Green—For peritonitis in itself, I am opposed to the use of cathartics, but if we have reason to think the cause of a partial or general peritonitis is impaction of fæcal matter in the colon, I think that cathartics may be advantageously employed. But injections should first be used and may be followed by cathartics. We should try by gentle means to empty the bowels, and entirely eliminate the impactions, because the continuance of the presence of this large mass of fæcal matter may bring on great peritoneal inflammation; and if there is already peritonitis it will be increased, and we know that, under certain circumstances, an ordinary peritonitis may become a septic one.

Dr. Prewitt—I hardly know how to reply to the extraordinary speech of my friend Dr. Johnston. I suspect he is the only person in the room who so completely misapprehended my meaning. He has been talking about a thing decidedly different from that to which I referred.

As you all know, the subject under discussion was obstruction of the bowels, in speaking of which, I referred to impaction of the bowels with fæcal matter, a very different thing from ordinary constipation. There is an error in using the terms impaction and constipation as synonymous. Impaction only occurs in a large bowel; there is no such thing as impaction of a small bowel, and it is preposterous to suppose such a thing. In a case of impaction where there are huge plugs of fæcal matter, the administration of a cathartic, sufficient to excite the bowel to act with such enormous force as would be required to expel the plug, would endanger rupture. It would be far more reasonable to get rid of the fæcal matter by irritating the lower bowel with injections, and I must adhere to this view in spite of the Doctor's experience. I do not think impaction ever terminates in peritonitis unless the bowels have been goaded by irritants. The contents of the bowel accumulate to a large extent and remain a long time without bringing on any

peritonitis whatever. When irritation does not occur, it is muco-enteritis rather than peritonitis which is set up; and I have frequently found even in cases of impaction that there is diarrhea, because there is an irritation of the mucous coating of the bowel.

It is not paralysis of the bowel that occurs, for there may be a watery diarrhea when the bowel is enormously distended with fecal matter. Suppose that there be an obstruction of the lower bowel about the sigmoid flexure, and suppose that there is a mass of fecal matter above the point of obstruction, how would it be possible to expel this mass by the use of purgatives? There is already an abundance of peristaltic action which the purgatives would dangerously augment without overcoming the stricture, and although no peritonitis might exist (for we know that bowels may be enormously distended for months without peritonitis arising), the use of purgatives would very likely induce it. The gentlemen may remember a *post-mortem* examination made at the St. Louis Hospital in which it was found that the colon had been enormously distended for months with fecal matter, and yet there was no peritonitis. The Doctor contends that we can not make a distinction between the obstruction of the bowels and irritation when intussusception exists.

At the outset, it is true, we may not be able to determine this; but suppose we had a case of severe vomiting induced by the irritation of the small bowel in which there was accumulation of fecal matter, would not the administration of purgatives aggravate the trouble? As I said, these large accumulations of fecal matter do not take place in a small bowel, but sometimes obstructions from intussusception, from twist or any other mechanical source, may prevent the passage of material from above. But we know from clinical experience that obstruction of the bowel takes place in a very large proportion of cases near the ileo-cæcal junction, and it is then accompanied by the characteristic paroxysmal pains that mark the obstruction of the bowel. This does not occur in simple irritation. Then another fact, connected with the obstruction of the bowels, is that the portion above the fecal obstruction becomes distended, and to such an extent that sometimes you can actually see the coils of intestines when you roll them about and trace their out-

lines. This does not occur in simple irritation of the bowels unless there is peritonitis inducing distension. And yet a patient may die of obstruction of the bowels and not have peritonitis. Hence, distension without peritonitis is a marked symptom of obstruction.

The basis of the diagnosis between obstruction and acute intussusception is, that in intussusception, in addition to the symptoms of obstructions, there are dysenteric symptoms, the constant desire to go to stool with the evacuation of nothing but bloody mucus. It is only in those cases of intussusception, in which there are no bloody stools, that we would be at a loss to determine whether it is intussusception or some acute form of obstruction. Even in such cases we can often make a proximate diagnosis, because the symptoms of obstruction proper are very marked; and because we have the history of the case to guide us. If a patient who never before had any trouble about the bowels, who has never suffered from hernia, is gradually taken with symptoms of obstructions—acute and frequent pain, etc.—in a majority of cases it will prove to be a twist of the bowel. If, on the other hand, we find an acute obstruction of the bowel has been preceded by peritonitis on former occasions, or acute inflammation, or both, the chances are that it is a case of adhesion from a band of plastic lymph, thrown out on some former occasion, and has resulted in this obstruction. Of course, in cases in which there is a history of hernia having given rise to trouble on former occasions, and which was reduced, we find symptoms of obstruction occurring with pain (perhaps at the outset) in the region of the abdominal ring, and we can very readily conclude that the case is due to that old hernia, and that some adhesive band, the result of inflammation, has given rise to the obstruction, and under this very theory Mr. Bryant has several times operated, dividing the band, and relieving his patient.

There may be internal hernia in the obturator foramen, and then one of the chief symptoms will be vomiting. All I mean to say is, that we can often arrive at an approximate differential diagnosis in these cases, and that our treatment should be based upon the result of this differential diagnosis, and I did not say that a man who would administer purgatives in this nineteenth century, for what he knew to be intussusception of the bowels, would

be guilty of criminal practice. But I hope no other member of the Society misunderstood me as Dr. Johnston did.

Dr. Newman has asked how nature relieves these intussusceptions. There is reason to believe that in some cases of intussusception where the bowel is not too closely strangulated, that it does become disengaged. It is also a fact, in cases even of close constriction of the bowels by intussusceptions, that, by gangrene and sloughing, the invaginated portion has been passed and the patient has recovered. Then it is true, that in cases of chronic intussusception where the patient is fed per rectum, the introduction of a bougie caused a sort of reverse action of the bowel which leads to recovery. But while these are cases of chronic obstruction, you can not hope to accomplish such favorable results in acute cases.

Dr. Ford—I would merely like to say that I think Dr. Prewitt's positions are very well taken in regard to this matter; for if we examine the recent literature on the subject, we will find that it is possible to make reliable diagnosis between volvulus, intussusception, obstruction, etc., and a case where the bowel has slipped beneath a band of lymph. In children, many of these cases may be excluded from the diagnosis; but in old people, we see obstructions of the small intestine, which occur by the superior portion of the small intestine passing into another portion which has undergone fatty degeneration. The passage of bloody discharges by children, is almost always significant of an intussusceptive condition. I think the diagnosis is not fairly made in a great many cases. With regard to the treatment, I may say that I have seen several cases myself, in two of which I do not know that anything could have been done. Of the two others which got well, one was that of an old man, the other of a man about thirty years of age. In the case of an old man there was, I think, obstruction of the small intestine, with invagination of the superior portion, and fatty degeneration. The second case was one of a strong, hearty fellow working on the levee, who, after exerting himself laboriously, was suddenly taken, in attempting to lift an enormous weight, with acute pain in the umbilicus, followed in a few weeks by marked obstruction. Both of the cases had been treated by calomel, with the usual constitutional effects. Both of these cases recovered.

In Dr. Newman's case, it seems to me the symptoms pointed to something quite different from obstruction of the bowel. It was the case of a young woman at the menstrual period, who had for a long time been subject to dysmenorrhœa. She was troubled with great pain in the pelvic region, and was obliged to go to bed. The pain grew worse, and became excruciating; there was syncope—almost collapse—vomiting, and finally peritonitis. These are the symptoms of what is called hæmatocele. I do not know whether anything further was learned in the diagnosis; whether the finger was introduced into the vagina, or whether any palpation of the pelvic organs was made through the rectum.

Dr. Newman—I do not think that it was a case of hæmatocele. We might conclude that at the catamenial period a certain amount of blood had passed through the uterus, and then into the tubes, causing obstruction. It may have occurred in the tubes, originally, which may have been ruptured. I think it is plain in this case that hæmatocele could not have occurred from any of these causes. But it is not my intention to discuss this now. Dr. Prewitt has admitted, I think, that in obstruction from fæcal accumulations there may be enteritis, or peritonitis. Now, sir, when we recollect that this enteritis is the result of impacted fæces, does it not suggest itself to the common sense of every person that the cause which gives rise to this condition should be removed? Now, there are a number of agents which will accomplish this: injections and purgations. And if the peristaltic action of the bowels is stopped from any cause, by reflex action or direct inflammation of the nervous ganglia controlling that function, I am inclined to think very favorably of the treatment suggested by my friend, Dr. Green, that we should get rid of the cause of peritonitis or enteritis, and if this cause is an accumulation of fæces, we might judiciously employ a purgative. I should, however, first use injections, as suggested by Dr. Green, in order to dissolve the scybalous matter as much as possible. But we should employ other injections than those ordinarily employed. Ox-gall is said to have a wonderful effect in dissolving these scybala. I have said that as far as my reading goes, intussusception of the bowels is a very rare thing in adult life, although quite frequent among children. It is stated by some of our authorities that in some of the hospitals

where *post-mortems* have been held, that one-fourth of the children who have died have had intussusception of the bowels, which may have existed for a long time without giving rise to trouble. And the conclusion to be drawn from that is, that a large proportion of these intussusceptions are relieved by the natural function of the bowels, by the normal peristaltic action. This is the reason why I asked Dr. Prewitt how nature relieved these cases. In discussing the question of intussusception, Dr. Prewitt seems to base his views upon the presumption that in intussusception there is necessarily obstruction of the bowels. This, I think, is a great error. There need not be what may be called an obstruction of the bowels; on the contrary, there is in almost *all* cases a passage through the bowels, and when this is the case, I can not see why, as Dr. Prewitt asserts so emphatically, there must be bloody discharges and a constant desire to defecate. There are a great many points connected with this matter that deserve a thorough discussion.

Progress in the Treatment of Stricture of the Urethra.

SOME remarks were made on this subject by Sir H. Thompson, at the annual meeting of the British Medical Association, in Cambridge, August, 1880. As illustrations of this advance during the last thirty years in England, the Doctor mentioned five points:

1. A general recognition of the principle that a delicate and gentle manipulation of any instruments in the urethra is alone trustworthy or permissible, in the place of that which was formerly greatly prevalent, viz.: that urethral obstruction might often be overcome mainly by force.

2. The substitution of very pliable and taper instruments for silver and stiff gum-elastic instruments in much of the treatment, both in ordinary and in continuous dilatation.

3. A more general acceptance of the doctrine that, given time, patience and gentle handling, very few strictures should be met with which can not be fairly and successfully traversed by an instrument passed through them into the bladder. At the same time, an undoubted improvement is to be noted in the mode of

operating for those exceptional cases in which the surgeon fails to accomplish that object.

4. A more general acceptance of the doctrine that dilatation of urethra, whether with or without incision, may be carried with advantage to a somewhat higher degree than had for some time previously been regarded as desirable.

5. The substitution of internal urethrotomy in some form for the application of caustics, and for external urethrotomy on a guide.

Each of the topics named is then considered somewhat in detail. In connection with the subject of the "caliber," or "diameter" of the urethra, or the amount of its dilatability, he refers to Dr. Oti's revival of the theory of "the large diameter of the urethra." He records his sense of the value of this point, but he adds that "it is a very easy thing to damage irreparably some individuals by overdilating the urethra." Thompson also opposes another doctrine which is associated with the proceeding, viz.: that stricture of the urethra is permanently cured by complete division of all the diseased tissues affecting the passage. In speaking of the many methods of performing internal urethrotomy, he says that the principles which govern a sound procedure are more essential points for the surgeon to discover and to teach than a consideration of small details. These principles he briefly states as follows: 1. The necessity for a physical examination before operating, to detect and estimate the narrowed portions of the urethra. This is best accomplished, in his opinion, by a series of metal bulbs on slender stems, taking care not to regard as charges of disease these points at which the urethra itself is naturally only slightly dilatable. These bulbous exploring sounds he invariably used, advocating them as essential to diagnosis, in his first work, twenty-six years ago. He prefers them to any others, as safer, less irritating, and not less efficient than more complex instruments which have been devised. 2. The necessity for accomplishing a complete division of all the morbid tissue constituting the stricture, by an incision carried through it, no matter what part of the urethra, or how much of it, is involved in the disease. As a general rule, he thinks, this is most efficiently done by a slender blade, carried beyond the stricture, and made to cut from within outward, this latter

proviso being, however, an open question. The important point is that any alleviation of the patient's condition, attained by operation, will be transitory if any part of the narrowing be left undivided. 3. He regards it as essential, after such division, to place at once a full-sized catheter for some hours in the bladder, to insure a free outlet for the urine, and prevent all possibility of extravasation of urine into and through the incisions thus made. 4. The necessity for passing full-sized bougies subsequently, at occasional intervals, in order to effect free distension of the walls of the urethra, which lie in almost constant apposition, and so prevent reunion of divided surfaces by the first intention. Finally, he declares the desideratum of the present time unquestionably is the discovery of a mode of treatment which shall permanently restore to the strictured passage its original dilatability; and he adds that a thoughtful consideration of the pathological condition which constitutes organic stricture does not embolden him to hope that such a result can be insured by the application of any principles of action at present known to us.—*British Medical Journal*.

MICROSCOPY.

Dissolution of Copartnership.

WE have received a circular to the following effect:

"The partnership heretofore existing between C. A. Spencer & Sons has been dissolved, and Herbert R. Spencer & Co. will hereafter devote themselves to the production of Microscopical Objectives, guaranteed to be one of the highest grade, and more than maintaining the reputation heretofore accorded the work of C. A. Spencer & Sons.

"For the past six years or more, all of the objectives manufactured and sent out by C. A. Spencer & Sons have been made entirely under the supervision of Herbert R. Spencer, after his own formulas, known only by himself, and it is scarcely necessary to say that our objectives will be of the same uniform and excellent grades as those heretofore sent out by the late firm.

"Causes, unnecessary for us to specify, have heretofore

prevented the prompt execution of orders, and as those causes no longer exist, and as it is our intention within a very short time to have always on hand the various grades of objectives named in our list, herewith appended, we can promise a prompt response to all orders, and we will guarantee all objectives marked H. R. Spencer & Co., but not those hereafter sent out simply marked 'Spencer,' or 'C. A. Spencer & Co.'"

Ancient Aids to Vision.

CICERO said that he had seen the entire Iliad, which is a poem as large as the New Testament, written on skin so that it could be rolled up in the compass of a nut-shell. Now, this is imperceptible to the ordinary eye. Very recently the whole contents of a London newspaper were photographed on a paper half as long as the hand. It was put under a dove's wing and sent into Paris, where they enlarged it and read the news. This copy of the Iliad must have been made by some such process. Pliny says that Nero, the tyrant, had a ring with a gem in it which he looked through and watched the sword-play of the gladiators, more clearly than with the naked eye. So Nero had an opera-glass. Mauritius, the Italian, stood on the promontory of his island and could sweep over the entire sea to the coast of Africa with his *nauscopite*, which is a word derived from two Greek words, meaning to see a ship. Evidently Mauritius, who was a pirate, had a marine telescope. The signet of a ring in Dr. Abbott's museum, said to belong to Cheops, who lived five hundred years before Christ, is about the size of a quarter of a dollar, and the engraving is invisible without the aid of glasses. In Parma is shown a gem once worn on the finger of Michael Angelo, of which the engraving is two thousand years old, in which there are the figures of seven women. A glass is needed to distinguish the forms at all. Layard says he would be unable to read the engravings on Nineveh without strong spectacles, they are so extremely small. Rawlinson brought home a stone about twenty inches long and ten wide, containing an entire treatise on mathematics. It would be perfectly illegible without glasses. Now, if we are unable to read it without the aid of glasses, you may suppose

that the man who engraved it had pretty strong spectacles. So, the microscope, instead of dating from our time, finds its brothers in the Books of Moses—and these are infant brothers.

AMERICAN MICROSCOPES IN ENGLAND.—At a meeting of the Royal Microscopical Society, held November 10th, Dr. Carpenter, the distinguished microscopist and physiologist, brought before the notice of the Society a microscope which he said he considered to be one of the most practical and efficient student's microscopes that he had ever seen. It was an instrument made by Mr. George Wale, of New York. "A microscope intended for medical students," he said, "should, above all things, possess simplicity of design and workmanship; in other words, should be capable of being produced in large numbers at a moderate cost. It should be of substantial build, not easily getting out of order. The focusing movements should be well enough contrived to permit the occasional use of high powers, and the mirror should be so attached as to admit the largest range of oblique motion. These points have been attended to with success in Mr. Wale's stand." We have not space to give Dr. Carpenter's description, as it is quite lengthy, as published in the *English Mechanic and World of Science*. He concluded his remarks by warmly commending the stand to the notice of the English opticians, saying that he did not at all desire to see a mere copy of the stand produced in England, though he thought that might be done less expensively there than in America.

GLEANINGS.

BY CHAS. A. L. REED, M. D., HAMILTON, OHIO.

UTERINE HÆMOSTATICS.—At a recent meeting of the British Medical Association (*Brit. Med. Jour.*, vol. ii., 1880, p. 367), Dr. Lombe Atthill read a paper on this subject, confining his remarks to the means of arresting hemorrhages from the unimpregnated uterus. The commonest causes of these were: 1. The various forms of cancer. 2. Tumors of the uterus. 3. Imperfect involution of the

uterus after labor or abortion. 4. A granular condition of the intra-uterine surface. 5. Retention of a portion of the ovum after abortion. As to cancer, Dr. Atthill's opinion of the Chian turpentine treatment was favorable, although not to the extent of Mr. Clay's views as to its curative powers in malignant disease of the uterus. It seemed to exercise its greatest power in cases of epithelioma of the cervix, and to have comparatively little influence in the medullary form of the disease. The value of turpentine in cancer of the uterus seemed to be mainly due to its action in diminishing the blood-supply. The small supply of Chian turpentine, and the difficulty of obtaining it pure, were serious objections to its use. Dr. Atthill believed that a pure oil of turpentine, administered in from ten to twenty drop doses, three or four times a day, was, as a hæmostatic, quite as good, and that, if carefully rubbed up with powdered gum arabic or tragacanth, it was likely to agree with most patients.

To restrain the hemorrhage from fibrous tumors, the injection into the uterus of the liquor ferri perchloridi and of the tincture of iron had been advocated. This method was sometimes followed by satisfactory results; but it was not absolutely safe, and unless care was taken to provide a free exit for the fluid injected, either by previously dilating the cervix uteri or by using a double canula, serious results might follow. The injection of hot water in such cases was a far safer method of restraining the hemorrhage. Incising the cervix was often useful in being followed by a diminution in the hemorrhage and by relief from pain, and at the same time it permitted the introduction into the uterus of a tube of moderate size and the free return of the hot water, which should be injected at a temperature of about 110° F. Another simple and often effectual method of applying heat was the use of Chapman's spinal hot-water bags. Of drugs, none could equal ergot in its power of restraining the hemorrhage depending on fibrous tumors. It was most effective when administered hypodermically.

Imperfect evolution of the uterus implied primarily a relaxed state of the muscular tissue of the organ and an unduly distended condition of the uterine vessels, and, also, in most cases, an unhealthy condition of the intra-uterine mucous membrane. When the latter existed it must be cured by treatment directed to the intra-uterine

surface. To check the hemorrhage at the time of its occurrence hot water was a safe plan of treatment, and, generally, easily carried out. Ergot, quinine and strychnine were, in cases of imperfect involution of the uterus, indirect hæmostatics. In the chronic form of the affection, Dr. Atthill had administered Chian turpentine with benefit.

Hemorrhage due to a granular condition of the vaginal aspect of the cervix might be arrested by the direct application to the bleeding surface of almost any astringent; but to prevent its recurrence a healthy condition of the cervix must be brought about by the free application of some strong caustic.

The retention of a portion of the ovum after abortion sometimes gave rise to very troublesome hemorrhage. In such cases dilatation of the uterus and removal of the retained portion by a curette might be performed unless contra-indicated, but it was liable to give rise to cellulitis and even to peritonitis, and Dr. Atthill therefore strongly recommended, in such cases, at least as a preliminary measure, the syringing out of the uterus with hot water. He had no faith in the administration of astringents by the mouth in cases of uterine hemorrhage depending on the causes which he had enumerated. In conclusion, he suggested that the most important questions for discussion in connection with the subject of uterine hæmostatics were these: 1. What is the value of Chian turpentine in arresting hemorrhage in cases of cancer of the uterus? 2. Is Chian turpentine the only variety of the drug of use in such cases? 3. In what other forms of uterine hemorrhage is the administration of turpentine indicated? 4. What is the value of the intra-uterine injection of hot water; (*a*) in cases of hemorrhage depending on the existence of fibrous tumors of the uterus; (*b*) in cases of imperfect involution of the uterus; (*c*) where portions of the ovum have been retained after abortion?

CONJUNCTIVITIS FROM CHLORAL.—Dr. J. H. Emerson, at a recent meeting of the New York Clinical Society, mentioned a case of ophthalmia produced by the use of chloral hydrate. The patient, a young man, was subject to attacks of asthma, and in two severe attacks, chloral, in ten or fifteen grain doses, had afforded great relief. This led him, during a recent attack, to employ it each

night for some time. Shortly after he began its use the conjunctiva of the globe and lids became injected, and photophobia existed, with profuse lachrymation. The latter, as it occurred in the left eye, did not correspond with the degree of photophobia. The affection of the eyes required him to keep his bed. Iodide of potassium, which he had been taking, had been discontinued for some time, and the resulting ache and throat irritation had disappeared. There seemed to be no cause therefore, other than the use of chloral, for the ophthalmic trouble. The treatment first adopted was the application of camphor water and borax, then of sulphate of zinc and rose water, but no improvement resulted. The chloral was then discontinued, and immediate improvement took place.

NOTE ON A SIGN BUT SLIGHTLY KNOWN, YET PATHOGNOMONIC OF FRACTURE OF THE NECK OF THE FEMUR.—In the principal hospital of Milan it is the traditional practice to explore attentively the little space which is found between the great trochanter and the ilium, whenever attention is drawn to the possibility of a fracture of the neck of the femur by some rational sign.

When the lower limbs have been brought parallel to the median line, in place of the considerable resistance which the tensor muscles of the fascia lata and middle gluteus present on the healthy side, we find on the fractured side a very appreciable depression, due to the approach of the points of insertion of the above-named muscles.

We do not know the surgeon who first remarked this symptom. Professor Bessi, of Modena, in his *Surgical Clinic*, in indicating this phenomenon to his pupils, said that he had it from Dr. Gherini, former surgeon of the principal hospital of Milan.—*Imparziale di Firenze—L'Union Med.*

TREATMENT OF BURNS.—Dr. Shrady, of New York, has recently treated burns by applying a paste composed of three ounces of gum acacia, one ounce of gum tragacanth, one pint of carbolized water (1 to 60), and two ounces of molasses. It is applied with a brush, renewed at intervals, and is stated to be a successful method. Four applications are usually sufficient, the granulating surfaces

being treated with simple cerate or the oxide of zinc ointment, as indicated.—*London Lancet*.

TREATMENT OF PROLAPSUS ANI IN CHILDREN.—Dr. Basevi (*Giornale Internazionale delle Scienze Mediche*, Fasc. 9) employs the following treatment in chronic cases of this affection. He first cauterizes lightly the protruding portion with nitrate of silver and then reduces it, administering afterward, with the view of checking any tendency to enteritis, an enema of tannic acid, alum and ice-cold water. Should this treatment prove insufficient, the child is placed on a bed with the nates upward, and steadied by two assistants, one of whom fixes the upper part of the body, while the other holds the knees elevated and somewhat abducted. The prolapses having been reduced, the nates are brought together, and two strips of diachylon plaster, each about two inches wide, are passed from one trochanter to the other in as close proximity as possible to the perineum. To keep them in place, a spica bandage is applied around the lower portion of the body, and a piece of gutta percha is added to protect the plaster from the contact of faecal matter. The apparatus may be left in position for two weeks.—*London Medical Record*.

THE BEST POSITION FOR WOMEN IN LABOR.—An exhaustive paper on this subject, by Dr. George J. Engelmann, of St. Louis, is reported in the proceedings of the American Gynecological Association. Among other historical facts, the doctor tells us that "only in Siam are women kept in the recumbent position, flat on the back, the rarest of all positions during labor." The author concludes "that the fully recumbent position on the back is inimical to safe and rapid labor." He believes we should advise that, in the early stages of labor, the woman should be permitted to follow her own instinct with reference to position, and even in the last stages of labor she might be allowed to do the same, except perhaps with reference to some general directions, and for these he would say the semi-recumbent position in bed was the one best adapted to give her the greatest assistance.—*American Journal of Obstetrics*.

BOOK NOTICES.

A PRACTICAL TREATISE ON THE DISEASES OF WOMEN. By T. Gaillard Thomas, M. D., Professor of Diseases of Women in the College of Physicians and Surgeons, etc. Fifth Edition. Enlarged and thoroughly revised. Containing 266 engravings on wood. 8vo. Pp. 806. Philadelphia: H. C. Lea's Son & Co. Cincinnati: R. Clarke & Co. Price, \$6.50.

This work has met with a success which must certainly be very flattering to its author. In 1868 the first edition was published. In only twelve years from that time a fifth edition is called for. Besides this evidence of appreciation, it has been honored by a translation into German, French, Italian and Spanish. Surely the author has reason to feel flattered.

But we feel sure an examination of the work will satisfy that it is one of great merit. It is not a mere compilation from other works, but it is the fruit of the ripe thoughts, sound judgment and critical observations of a learned, scientific man. It is a treasury of knowledge of the department of medicine to which it is devoted. And so interestingly are the gems of fact presented that the reader's attention is attracted at once and he peruses the pages with an interest seldom experienced in reading a medical work.

The author has devoted two years of labor upon this edition. It will, therefore, be found that every chapter has received a thorough revision, bringing its contents up to the present state of knowledge. In its present revised state it certainly holds a foremost position as a gynecological work, and will continue to be regarded as a standard authority.

The publishers have bound this work in half Russia binding, and also Hamilton's "Fractures and Dislocations." This is much more elegant than sheep, besides being more substantial. The cost is but a trifle more than sheep; and physicians will readily pay the difference for the increased beautiful appearance of the book. Messrs. H. C. Lea's Son & Co. design binding other of their many publications with the same binding. Each volume is wrapped in soft paper, and inclosed in a box.

A PRACTICAL TREATISE ON FRACTURES AND DISLOCATIONS. By Frank Hastings Hamilton, A. M., M. D., LL. D., Surgeon to Bellevue Hospital, New York, etc., etc. Sixth American Edition. Revised and Improved. Illustrated with 352 woodcuts. 8vo. Pp. 909. Philadelphia: Henry C. Lea's Son & Co. Half Russia. Price \$7.00.

- It is now twenty years since the first edition of this work has been published, and, as has been stated, there has scarcely been any attempt, either in this country or in Europe, to furnish a similar one, so that it may be said to occupy the field alone. It is somewhat surprising, too, that, in the department of surgery to which it is devoted, it should be the only monograph. But the study of fractures and dislocations, although of the highest importance, is most difficult, and is of too practical a character to be inviting. There is no room in it for brilliant hypothesis—all are facts which can be tested; and the disproval of the correctness of a result of some beautiful process of reasoning may be manifested by a deformity or uselessness forever of a limb. Persons generally prefer to write upon those subjects in regard to which the fallacies of their discussions can not be made so apparent.

The experience of such a surgeon as Prof. Hamilton has been very great indeed. But few have enjoyed the opportunities of observation as he. In addition to his own experience and observation, he has been a most thorough student of the labors of others, searching through medical journals, works on surgery, papers read before societies, discussions, etc., treasuring up in his mind whatever he found of value. Thus qualified in this department of surgery, by an extensive learning, rarely equaled, he has written the work before us. That it should, under such circumstances, be *par excellence* a source of information in regard to fractures and dislocations, in advance of all others, is claiming for it no more than what is justly its due. These accidents are here treated more elaborately, scientifically and practically than anywhere else.

But in noticing previous editions of the work, we have very fully described it. It will, therefore, only be necessary for us to mention the fact that in this, the sixth edition, most of the chapters have undergone a thorough revision. A chapter on "General Diagnosis" has been added,

and several new illustrations introduced. The work is now as complete as it well can be with our present knowledge.

A TREATISE ON DIPHTHERIA. By A. Jacobi, M.D., Clinical Professor of Diseases of Children in the College of Physicians and Surgeons, New York, Physician to Bellevue, etc. 8vo. Pp. 252. New York: William Wood & Co.

Prof. Jacobi has long been known as one of the most distinguished physicians of New York City. Besides his public practice in different institutions, he has an exceedingly large private practice, so that his advantages for observation and experience have, for many years, been unsurpassed.

So generally known is Prof. Jacobi as a most skillful and learned physician, we have no doubt this work will be eagerly sought for by the profession generally. There is no disease at the present time that commits so great ravages as diphtheria. In many epidemics an attack of it has seemed to be almost necessarily fatal, so virulent has been its onset—destroying the vital powers at the very start. Under the circumstances, therefore, physicians will seize upon any prospect to increase their knowledge of this most fell disease, before which not unfrequently they have to confess themselves altogether powerless. This work, consequently, coming from so eminent a source, will, undoubtedly, meet with a ready sale.

The work contains nine chapters, in which are described the history of diphtheria, its etiology, the manner of infection, contagion and incubation, symptoms, anatomical appearances, diagnosis, prognosis and treatment. In these chapters will be found much valuable information; and if an antidote is not presented to the physician who reads it, he will certainly have his knowledge enlarged, and be able to treat the affection more in accordance with its history, etiology, pathology, etc., and probably secure better results than he had been having previously. In addition, he will be better informed how to protect those who have not yet been attacked during an epidemic, from contracting it.

THE DESCRIPTIVE ATLAS OF ANATOMY. A Representation of the Anatomy of the Human Body. In 92 Royal 4to. Plates. Containing 550 Figures. Philadelphia: J. B. Lippincott & Co. Cincinnati: R. Clarke & Co. Price, \$5.00.

This will be found a most valuable work, and will undoubtedly be sought by all physicians having students in their offices. In fact, having now an existence, it occurs to us that it will be regarded an essential to all who are engaged in instructing in anatomy, especially to those residing in the country, where there are no facilities for dissecting. But even when the facilities for studying practical anatomy exist, pictures and plates have to be used to considerable extent as supplemental.

The pages of the work before us are quarto size, or that of a large atlas, the paper being of the heaviest character. Commencing with the bones composing the skull, every anatomical structure of the human body is exhibited in the 550 figures. The parts are described *in situ*, and the *arteries and veins have been colored*.

The arrangement is as follows: The bones and ligaments have together been placed first; then follow muscles, fasciæ, organs of special sense, dissected regions and the viscera; next are placed the arteries, veins and lymphatics; and lastly the nervous system—an arrangement which will be found practically useful to the student.

A work of this size, having all the structures colored, would probably cost from \$50 to \$100. Although in this work they are not colored, except the arteries and veins, yet as every part is clearly exhibited, and very correctly so, we can not see that the work is any the less valuable. At the low price of \$5 it is certainly as cheap a work as ever issued from the press, not even excepting works for popular circulation.

MEDICAL HERESIES: HISTORICALLY CONSIDERED. A Series of Critical Essays on the Origin and Evolution of Sectarian Medicine, Embracing a Special Sketch and Review of Homeopathy, Past and Present. By Ganzalvo C. Smythe, A. M., M. D., Professor of Practice of Medicine in Central College of Physicians and Surgeons, Indianapolis, Ind. 12mo. Pp. 228. Philadel-

phia: Presley Blakiston. Cincinnati: R. Clarke & Co. Price, \$1.25.

This work will be found exceedingly interesting, containing, as it does, a great deal of information in regard to medicine. It is, in fact, a history of medicine from the earliest period to the present time, giving an account of all the various schools of medicine, the doctrines held by them and modes of treating diseases. In illustration we give the contents of the first chapter: "Ages in Medicine: The Mythological, Dogmatic, or Empirical, and Rational; Origin of Medicine; Its Evolution; Primeval Medicine; Ancient Egyptian Civilization; Influence of Epidemics upon Primeval Man."

In discussing homeopathy the work shows conclusively that even in these modern times the "fool-killer" is about. This system of medicine (?) is dealt with without any feeling—its dogmas being exhibited from the writings of Hahnemann, and more recent homeopathic writers, without any exaggeration. If the expose could be brought before the public, we feel very sure that homeopathy would soon die out. As it is, the people are not aware of the miserable absurdities contained in it, and consequently continue their patronage. Our author shows the efforts of many homeopathic physicians to reform it and get rid of many of its doctrines that are shocking to common sense.

We are sure the work will meet with a ready sale, as intelligent physicians generally are interested in the history of the evolution of their profession.

HOW A PERSON THREATENED OR AFFLICTED WITH BRIGHT'S DISEASE OUGHT TO LIVE. By Joseph F. Edwards, M.D. 16mo. Pp. 87. Philadelphia: Presley Blakiston. Cincinnati: R. Clarke & Co. Price, 75 cents.

This little work is written in plain, non-technical language for the use of non-professional readers. Among other reasons which the author gives for publishing the work, he states that one is the fact that, in many instances, a person with a well marked case of Bright's disease can, by leading a proper life, live in comfort and comparatively good health for many years; that very few diseases are so liable to be aggravated by neglect of hygienic rules. He hopes, therefore, by promulgating some

knowledge in regard to the kidneys—what their offices are—with some information in regard to the functions of other organs and a few leading principles pertaining to diet, he may contribute to restoring some to health and be the means of prolonging the lives of others.

Physicians, as well as laymen, will find the work interesting, and will obtain many valuable hints as to the proper hygiene to be observed in Bright's disease.

THE MEDICAL RECORD, VISITING LIST, OR PHYSICIANS' DIARY FOR 1881. New York: Wm. Wood & Co.

This is the handsomest visiting-list it has ever been our pleasure to see. It is bound in elegant red morocco, with gilt edges. It has lines for thirty patients a week, with space on opposite page for the cash charge for the week, page of ledger and general memoranda. There are also pages for obstetric record, addresses of patients and others, cash account, etc. As is desirable, it is not burdened with much reading matter. There are some tables relating to pregnancy, doses of drugs used by subcutaneous injection and *per orem*, poisons and antidotes, etc. It is a very handsome and convenient visiting list for the pocket.

WALSH'S PHYSICIANS' COMBINED CALL-BOOK AND TABLET FROM 18— TO 18—. Fourth Edition. Published by Ralph Walsh, M. D., Washington.

WALSH'S PHYSICIANS' HANDY LEDGER. A Companion to Walsh's Physicians' Combined Call-Book and Tablet. Published by Ralph Walsh, Washington.

The first of these two works is designed for a visiting-list, similar to others of the kind, to be carried in the pocket in order to keep memoranda of visits made patients. The page in front of each weekly page of visits is blank, for the purpose of any memoranda desired to be made. This is an advantage peculiar to this work. Besides these are appropriate pages for obstetrical records, cash accounts, vaccination engagements, etc. The use of this visiting-list can commence at any time in the year, and lasts a year.

The second work is one of 600 pages as a ledger. It is exceedingly convenient, as a patient's account can be ascertained at any time at a glance. For every sort of

attendance, and for cash payments at any time, each family, with whom an account is opened, requires but two pages during the course of a year. It will accommodate 300 names. With it, not more than twenty minutes will be necessary each day to foot up the largest practice. For ordinary visits one line lasts a month. We very cordially recommend it to our friends. Price, \$3.00.

OTHER BOOK NOTICES.—We are in receipt of a number of other new books which want of space makes it impossible to notice in this number. We will give them attention in our next.

EDITORIAL..

PARTIES who advertise will consult their interests by advertising in a well-established journal—not one just commenced, nor one that has lived out its day of usefulness and is kept alive by occasionally buying up the subscription list of a defunct contemporary. It is better to pay a reasonable sum for space in a journal of large *bona fide* circulation than a very small sum in a journal of scarcely any circulation.

THE MEDICAL NEWS is the cheapest medical journal to advertise in of any medical journal in the West—not because it charges less per page, but because it has the largest circulation. Those who advertise in it usually continue their advertisements so long as they continue to advertise in any journal. In looking over the advertising form it will be observed that not a few of the advertisements have been appearing for years.

We hereby append the post-office law in regard to periodical publications. By noticing it, and keeping it in mind, hard feelings would sometimes be avoided:

UNITED STATES POSTAL LAW.—1. A postmaster is required to give notice *by letter* (returning a paper does not answer the law) when a subscriber does not take his paper out of the office, and state the reasons for its not being taken. Any neglect to do so makes the postmaster *responsible* to the publishers for payment.

2. Any person who takes a paper from the post-office, whether directed to his name or another, or whether he has subscribed or not, is responsible for the pay.

3. If a person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it until the payment is made, and collect the whole amount, *whether it be taken from the office or not*. There can be no legal discontinuance until the payment is made.

4. If the subscriber orders his paper to be stopped at a certain time, and the publisher continues to send, the subscriber is bound to pay for it *if he takes it out of the post-office*. The law proceeds upon the fact that a man must pay for what he uses.

5. The courts have decided that refusing to take a newspaper and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

EARLY PRACTICE OF MEDICINE BY WOMEN.—As every one does not read the *Popular Science Monthly*, we have thought that we would cull from the December issue a few facts in regard to women practicing medicine, in an

article on the subject by Prof. H. Carrington Bolton, Ph. D. It is stated that isolated cases of gifted women attaining notable surgical skill and successfully pursuing the divine art of healing, are recorded at various epochs in the history of the intellectual development of woman, but that they occur at long intervals of time, and in widely scattered chronicles. In ancient Egypt, the crafty guardians of superstition sedulously concealed their superior knowledge from an ignorant people, but that there were at least some women who practiced gynecology at that time is manifest from the story of the birth of Moses. Among the ancient Greeks, medicine held a high position, and, to add to its dignity, the practice of it was forbidden to women and slaves. During the middle ages of the Christian era, medicine, as well as every other branch of science, was loaded with superstition. We, therefore, find both men and women exercising the double calling of sorcerers and healers of the sick.

The first female practitioner, who received a medical education, appears to be Agnodice, a young Athenian woman, who lived about 300 years B. C. Schools of medicine were forbidden to her sex, but she obtained advantage of them by disguising herself in male attire. After completing her education, she practiced with great success, devoting herself mostly to diseases of her own sex. Becoming jealous of her great reputation, the Athenian physicians accused her of abusing her trusts in dealing with female patients. To establish her innocence she disclosed her sex, when they charged her of violating the law forbidding females and slaves practicing medicine. But her female patients came to her rescue, and got her acquitted.

Notwithstanding the ancient Romans and Greeks were opposed to women having anything to do with medicine, yet several of their women obtained considerable distinction as physicians, as Phænarete, the mother of Socrates, Olympia of Thebes, Salpe, Sotira, Elephantis, Favilla, Aspasia and Cleopatra. Fabiola was the Nightingale of antiquity. She flourished in the fourth century, and was of the illustrious house of Fabius. She founded hospitals in Italy, and personally nursed the sick, as at Ostia.

During the middle ages, Dr. Bolton, in his article, says that not a few nuns and other women were engaged in

practicing the healing art and nursing the sick. The remedies of many of these were of a superstitious character, attended with prayers and enchantments. We have mentioned in previous editorials in the *News* the effect of mental impressions, under some circumstances, upon the body. No doubt benefit oftentimes resulted in this way from such remedies, although not calculated in themselves to do any good.

The universities of Italy first recognized the capabilities of women in medicine, and, although this recognition occurred as far back as the twelfth century or earlier, yet they are still in advance of the medical schools of our country, who close their doors against them, and along with them are those of Cincinnati, which have frequently turned them away. In the thirteenth century two women, most remarkable for learning, lived. We mention them although they were not devoted to medicine. The abilities, however, that they exhibited, show, that, if they had given their attention to it, they could have held the highest positions as physicians. We refer to Accorsa Accorso and Bettisia Gozzadini. Both of these women held professorships in the University of Bologna. The first the chair of philosophy, the latter that of jurisprudence. June 5, 1646, Elena Lucrezia Cornaro was born at Venice. Besides her native Italian, she was familiar with French, Spanish, Latin, Greek and Hebrew, and had some acquaintance with Arabic. The degree of Doctor of Philosophy was conferred upon her by the University of Cornaro. She discoursed eloquently upon philosophy, mathematics, astronomy and theology. She attained a European reputation, and died at the early age of thirty-eight. We could mention a number of other learned women who lived in the fourteenth, fifteenth, sixteenth and seventeenth centuries, but we are more particularly interested in those who were famous for their medical knowledge. Anna Morandi was born about the year 1715. She attained to the highest distinction as an anatomist, making many discoveries. So great was her skill in dissections requiring delicacy of touch and minuteness of detail that her reputation extended throughout Europe, and her lecture-room was frequented by students of all countries. Her talent was first developed by assisting her husband, a poor, hard-working maker of anatomical models in wax. Soon after commencing to assist

him, she surpassed her husband in skill. Although receiving tempting offers from other Italian universities, and even from England and Russia, she preferred filling the chair of anatomy in the Bologna Institute, to which she had been appointed soon after her husband's death in 1755. She enjoys the distinction of having been the first "to reproduce, in wax, such minute portions of the body as the capillary vessels and the nerves." A number of other women have flourished in Italy distinguished for medical knowledge, and their learning in other departments of science, but we have not the space to mention them. In Spain, the universities of Cordova, Salamanca and Alcala honored many women with doctor's degrees. In Madrid, in 1587, a learned medical work appeared, published over the name of Olivia del Sabuco. In Germany, Frau Erxleben was one of the most successful female practitioners of the last century. In England, in the seventeenth century, Anna Wolley and Elizabeth Kent published works on medical subjects.

Every physician of intelligence has heard of the eminent Madame La Chapelle and Madame Boivin, both of France. The latter of the two, at least, was honored with the degree of Doctor of Medicine by the University of Marburg. Dewees, in his "System of Midwifery," referred to them as of the highest authority, and frequently quoted them in discussing unsettled subjects.

We could occupy many pages of the *News* in relating the success of the efforts of many women in the practice of medicine. It has been proven that there are many women capable of attaining to the highest degree of eminence in learning and skill in medicine. But while this is true, yet we do not believe that they will ever, to any very great extent, displace men as practitioners, not even in the diseases of their sex and those of children, which they are more especially adapted to treat. The discharge of their duties as wives will be an insurmountable obstacle, not to their acquiring knowledge, but to their putting it to practical use. They can not, therefore, in the nature of things, become physicians, lawyers, judges, preachers, professors, etc. Dr. Bolton, to whose article in the *Science Monthly*, we are indebted for the greater part of the facts we have presented, seems to consider ladies as peculiarly adapted for practicing medicine. We think so, too, but, at the same time, we regard

them as better adapted for wives, and, consequently, that, as a general thing, will be their calling.

DECEASE OF DR. THOMAS WOOD.—It gives us much pain, indeed, to announce the decease of Dr. Thomas Wood, which took place Sunday, November 21. As but comparatively few knew of his being ill, the announcement in the papers of his death was quite a shock to his numerous friends of the profession and the community. He died in the harness—with his armor on—by a blow from the enemy he had devoted his life in contending against. He had been attending some persons who had been injured by a railroad accident. While dressing some suppurating wounds, purulent matter was absorbed, in consequence of his hands being slightly chapped. After becoming aware of the accident that had happened him, he was not alarmed, but for awhile continued to attend to his business. The severity of the symptoms, however, increasing, he called in Dr. W. H. Mussey, who afterward consulted with Dr. Comegys; but, we believe, these gentlemen felt no uneasiness in regard to his final recovery. On Sunday, however, the day of his death, brain symptoms suddenly manifested themselves, and he died from their effects.

Dr. Wood, we have understood, was a member of the profession for more than thirty-five years. The greater part of that time he practiced in Cincinnati. We have known him nearly twenty-five years. For quite a number of years he was Professor of Anatomy in the Medical College of Ohio, and was held in high estimation by the students of that institution. During that time, and for a number of years subsequently, he was surgeon to the Cincinnati Hospital. He was also for a number of sessions Professor of Surgery in the College of Medicine and Surgery. For several years he owned and edited the *Lancet*, the only medical journal published at the time in Cincinnati.

Dr. Wood was an exceedingly modest and unassuming man. If he had not been so, with the talents he possessed, and the record he had made of distinguished surgical operations, he would have held a foremost place among the great surgeons of the world. All of the capital operations of surgery he had performed many times with success. In surgical gynecology he was especially

distinguished, having had a success in a number of operations that has as yet never been eclipsed by any of the most noted gynecologists. He, however, seldom or never reported any of his remarkable cases in the medical journals, so that the knowledge of them was confined largely to his acquaintances. But, besides his surgical learning and skill, he was well informed in the natural sciences, taking an active interest in the study, especially of geology and entomology. Illustrating these latter, he had collected quite an extensive and valuable cabinet of specimens. He has at times highly interested us in exhibiting to us his many curiosities. He had the largest and most interesting collection of spiders we ever saw, which he had obtained from many places, some coming from great distances, as from Mexico, Nicaragua, etc. Some specimens of this class of Arachnida were immense in their size. In his various researches he used the microscope a great deal, not, however, as an "*advanced*" microscopist, but to aid him in the study of the minute objects of investigation. When thus using the instrument that has revealed to man a world before unknown and unsuspected, he delighted to gather about him such young medical students whom he knew had a love of study, and appreciated scientific research, and exhibit to them its wonderful developments.

Before concluding, we will say that, in the decease of Dr. Wood, the profession of medicine has lost one of its most eminent and useful members—a physician who loved science for itself, and who cultivated it simply because he loved it, and not for any *eclat* that might result. He was the least vainglorious of any one we ever knew. In his association with his professional brethren he was kind and gentle, and always lent his assistance with seeming pleasure. He had no sympathy in any of the miserable cliques that exist in Cincinnati. Our own intercourse with him was always pleasant, and we regarded his abilities with the highest respect. He was a paying subscriber of the *MEDICAL NEWS* from its commencement, thirteen years ago, and has frequently expressed his esteem of it.

PUBLIC SCHOOL FAILURE.—The December number of the *North American Review* contains an article with the above heading which will surprise most persons by its state-

ments. It regards the public schools of this country as almost a complete failure in accomplishing the objects for which they are designed—those institutions which our orators have declared to be the pride and boast of our great free government. We quote: "There is probably not one of those various social contrivances, political engines or modes of common action called institutions which are regarded as characteristic of the United States which are so unworthy of either confidence or pride; not one which has failed so completely to accomplish the end for which it was established."

The writer does not found his statements on any theory or belief that education does not, contrary to what is supposed by most persons, make persons better, but because the public schools *fail* to impart an education. As for ourself, we have never believed that education, by which we mean book learning, makes the heart better, that it has in itself an elevating or purifying effect upon the moral conduct. The feelings and the intellect are entirely different departments in the individual, and the culture of one does not bring about culture of the other by any means. Some of the greatest rascals in the world have been men of education, thus showing that intellectual culture, in their case, had not accomplished what the public has assumed as an axiom, that wrong-doing will diminish in proportion as people are educated.

But we have set out, not to express our own views, but to relate what the writer in the *Review* says. According to him the public schools fall short as follows, quoting his language: "According to independent and competent evidence from all quarters, the mass of the pupils of these public schools are unable to read intelligently, to spell correctly, to write legibly, to describe understandingly the geography of their own country, or to do anything that reasonably well-educated children should do with ease. They can not write a simple letter; they can not do readily and with quick comprehension a simple 'sum' in practical arithmetic; they can not tell the meaning of any but the commonest of the words that they read and spell so ill. There should not be need to say that many of them—many in actual numbers—can do all these things fairly well; but these many are few indeed in proportion to the millions who receive a public school education. They can give rules glibly; they can recite

from memory; they have some dry, disjointed knowledge of various ologies and osophies; they can, some of them, read a little French or German with a very bad accent; but as to such elementary education as is alike the foundation of all real higher education and the *sine qua non* of successful life in this age, they are, most of them, in almost as helpless and barren a condition of mind as if they had never crossed the threshold of a school-house."

In the city of New York \$3,805,000 were spent in 1879 for public school education alone.

MILK AND ITS USES.—Among our selections will be found a valuable article upon milk, in which is described its properties and therapeutic uses. We are sure it will be read with interest. As supplemental to what is stated in it, we will state that we have in mind a gentleman who, when we saw him the last time, had taken no other nourishment than milk, not even a mouthful of bread, for six weeks. Previous to his commencing to subsist on an exclusively milk diet, his urine was loaded with albumen, and his lower limbs at times would exhibit some swelling. It was evident that he had Bright's disease—the initial stage of it. When we saw him at the time mentioned, albumen had almost disappeared from his urine, and all swelling had subsided. He was in the enjoyment of very good health, and, in the discharge of his duties as a collector, he was able to walk many squares every day. In fact, he was on his feet pretty much all the time from morning to night, and suffered very little from fatigue. A number of other similar cases have come under our notice; and our observation, so far, would lead us to suppose that it is beneficial in cases of Bright's disease.

The article to which we refer proves how essential it is that perfect cleanliness should exist about a dairy. The cattle should be kept clean, and especially should cleanliness be attended to when cows are kept in stalls in winter time. Some cow-yards and stables become disgustingly filthy; and, under such circumstances, the milk, in consequence of its absorbing properties, must become very unhealthy as food, especially in cases of infants and children using it. Quite often have the milk inspectors, on visiting the premises of different dairymen, who supply milk to the families of this city, reported the stables and

pens in a most filthy condition. Such dairymen are responsible for a great deal of sickness. How many deaths they cause in the course of a year, it is difficult to say, but, undoubtedly, a great many. We are not inclined to be sentimental, but we can say truthfully that hundreds are the little graves that are dug as the result of poisonous milk furnished by them. If burglars and highwaymen are sent to the penitentiary, much more should be the man who keeps a filthy dairy.

THE NORTH AMERICAN REVIEW.—This magazine is published monthly by Messrs. D. Appleton & Co., of New York, at \$5 a year. There is no magazine published that holds a higher position. The December issue, which is before us, has the following articles: "Future of the Republican Party; Discoveries at Olympia; Rational Sunday Observance; Southern Statesmen and their Policy; Ruins of Central America; Distribution of Time; Public School Failure; Validity of the Emancipation Edict."

All of the contributors are of the highest literary ability.

APPOINTMENT OF A TRUSTEE.—We are informed that Gov. Foster has appointed Mr. B. F. Brannan a trustee of the Cincinnati Hospital in place of Mr. M. B. Hagans, resigned. The appointment is an eminently good one. Mr. Brannan has before been a trustee, and, as such, gave general satisfaction. As a humane gentleman, he will labor to make the institution efficient in rendering assistance to the needy sick.





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